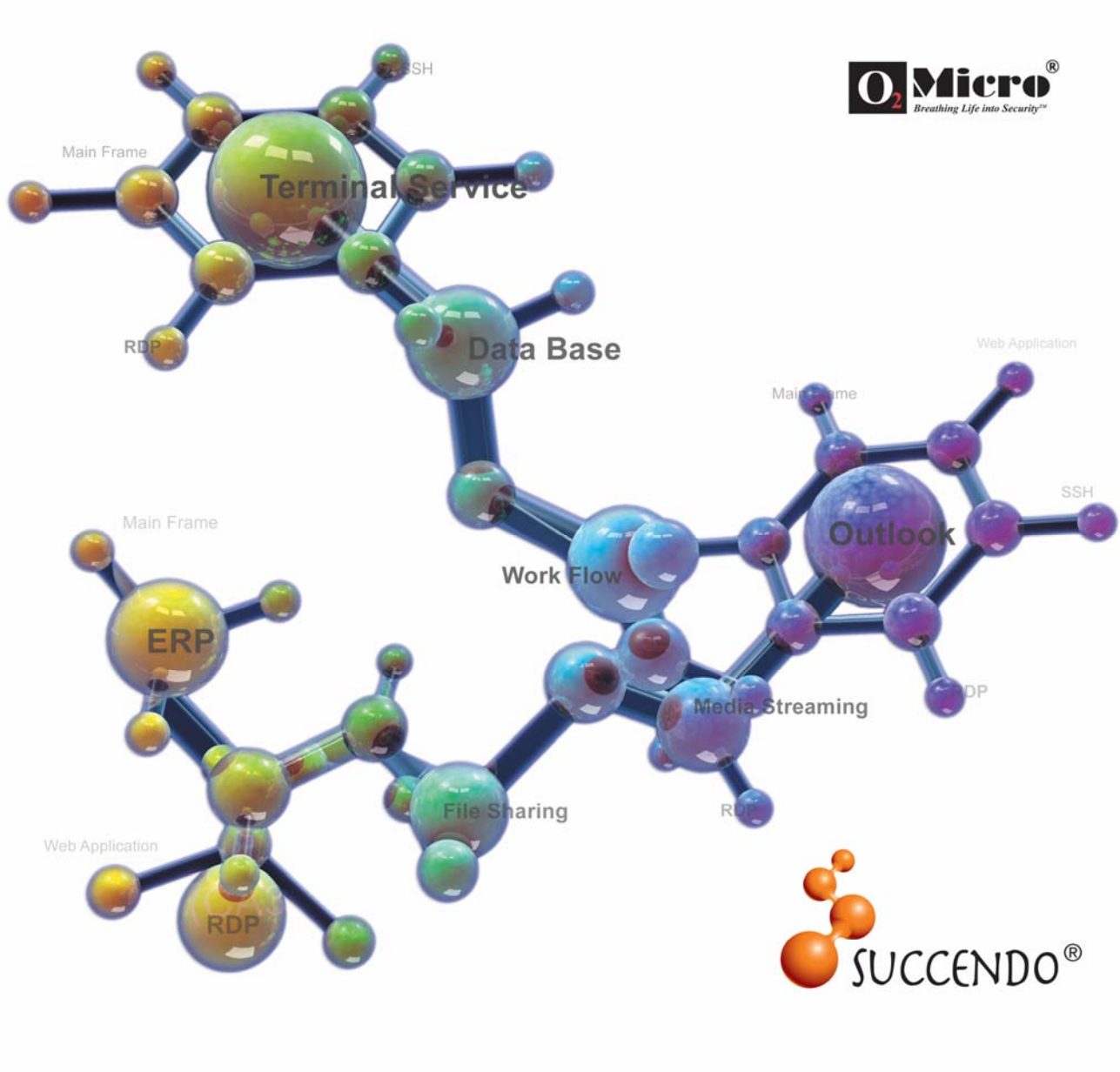

Succendo™

502 / 2000 Series User Manual 1.2

OD2200UME01-1.2

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Chapter

1

Introduction

Succendo SSL-VPN is a SSL-based clientless secure remote access solution. Remote users, using Succendo, can access the company's internal network via the Internet securely. This is done by utilizing technology such as user verification and authentication via authentication servers, role-based access control, and data encryption to protect the network and to provide protection while user access and use internal network services. With the SSL/TLS protocol, Succendo ensures that data are encrypted adequately to prevent eavesdropping.

As a SSL-based VPN, Succendo supports a wide range of TCP/UDP based application programs such as web applications, ftp, tftp, telnet, terminal server, VNC, File sharing, SSH, HTTPS, Oracle, Exchange/Outlook , Lotus Notes, and MySQL. Succendo also supports a wide range of port-ranged application programs.

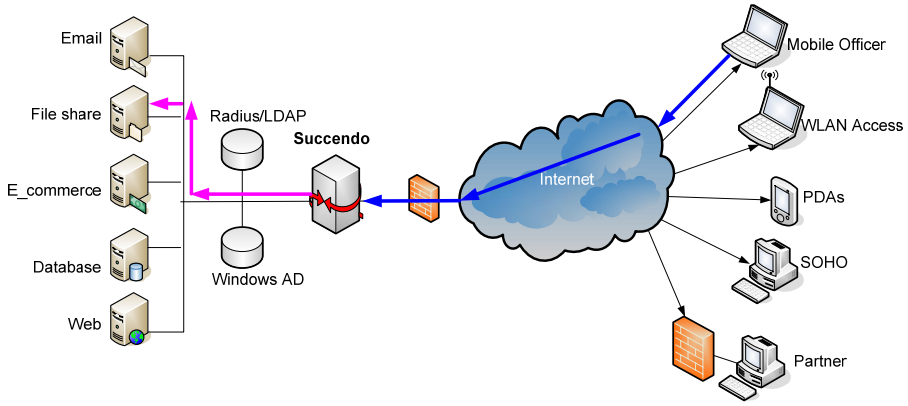
Besides deploying an internal user verification database, Succendo utilizes authentication servers such as Windows AD, LDAP, and Radius for an integrated user management system, thus simplifying system administration. User authentication methods include the use of username/password, one-use password token, authentication certificates and image code.

1.1 Typical Deployment Models

There are typically three models when deploying Succendo. All data streamed from the Internet are required to go through Succendo's security process before accessing the enterprise's intranet. This prevents attacks such as eavesdropping, replay, illegal login, etc., while providing access authentication and control measures.

1.1.1 Typical Remote Access Model

Succendo provides a remote access solution to enterprises. Mobile users are able to access the Intranet via any connection to the Internet. Succendo's SSL tunnel secures all such transmissions. Furthermore, Succendo supports the use of various authentication servers such as Radius, Windows AD and LDAP etc, facilitating the convenience of the deployment of Succendo with the enterprise's existing authentication system. The figure below demonstrates this model.

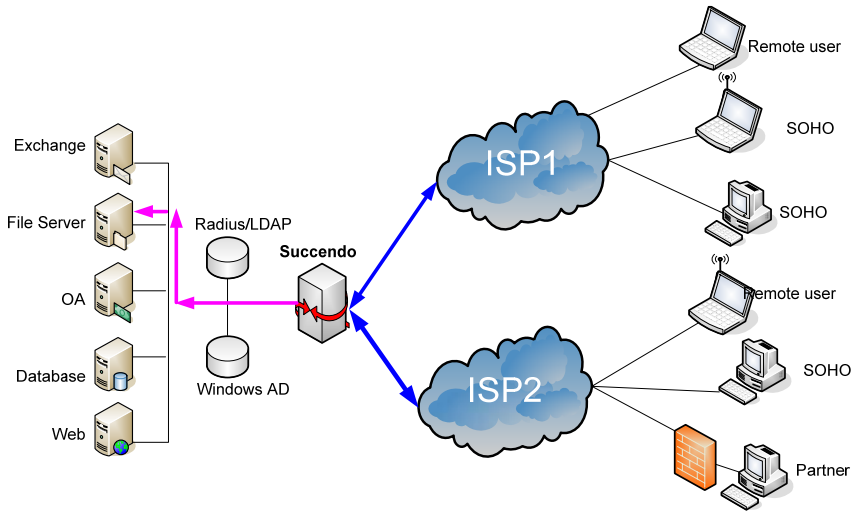


1.1.2 Remote Access via Multiple ISPs

Different users may connect to the Internet via different service providers (ISPs). In such an environment, accessing a single point on Succendo from different ISPs may result in the instability of the network. Even though Succendo's intelligent client-end system is able to sustain the network link quality over slow and unstable links, this function does not activate for applications that have strict requirements on the network environment.

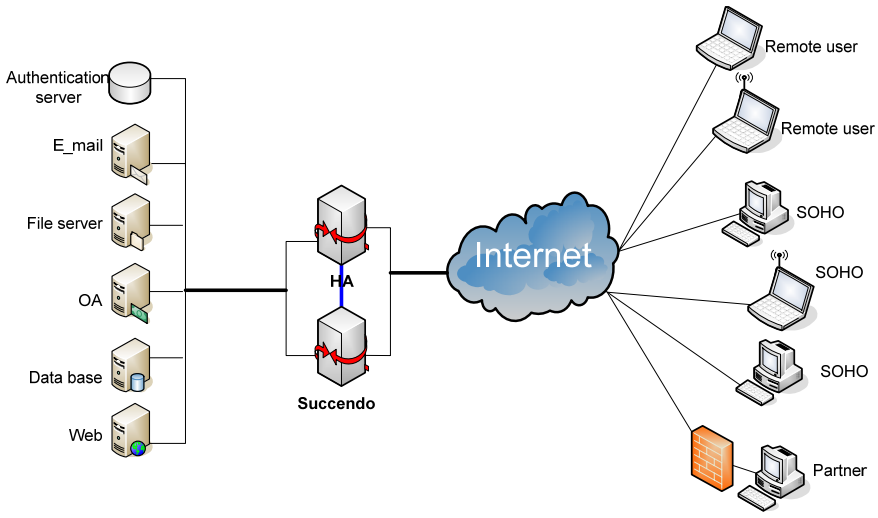
To resolve this issue, administrators can configure multiple interfaces on Succendo, each interface connecting to a different ISP. Coupled with Succendo's intelligent client-end function, this ensures

that clients connecting via the different ISPs enjoy a good network application experience. Please refer to **Chapter 3**, **Section 3.1** for information on setting up interfaces.



1.1.3 High Availability Model

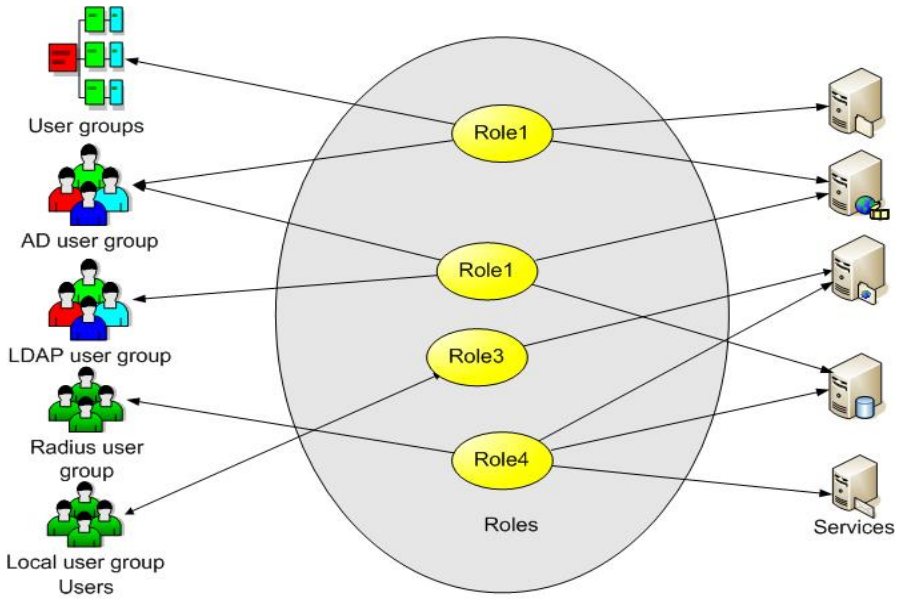
The aim of a remote access solution is to provide remote users with access to the Intranet at any time. This requires Succendo to provide for redundancy and sufficient fault-tolerant mechanisms for possible breakdowns in the physical network environment. Succendo's high availability (HA) function satisfies this requirement. The two Succendo devices can be working in active-active mode or active-passive mode. The diagram below represents a HA deployment of Succendo.



Under HA, the two Succendo devices can automatically synchronize with each other and realize the swapping and restoration of their status according to conditions such as the network's usability and the device's current status etc. Under the active-active mode, Succendo also provides a load-balancing mechanism. Succendo's HA mode equips the enterprise's remote access solution with high availability, hence allowing mobile users to access the resources in the Intranet at all times. Please refer to **Chapter 3**, **Section 3.5** for information on setting up the HA function.

1.2 Succendo's Access Control Model

Succendo SSL-VPN uses a role-based model for access control, as illustrated in the diagram below:



In the diagram, the role connects the users to the services. After a user successfully login to the system, Succendo will, based on the user name, determine the user's role and determine the kind of resources available to the user according to his roles.

Essentially, a role defines the user or user group's accessibility to a particular service or application. We can summarize the m-m (many-to-many) relationship between roles, users (and user groups) and services as follows:

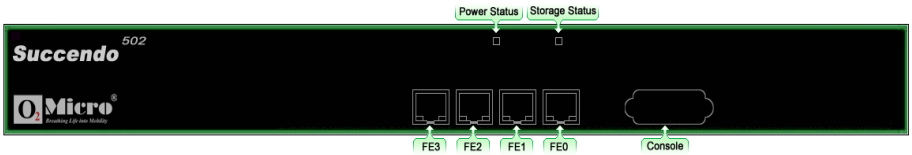
1. Each role defines accessibility to one or more services
2. Each user or user groups can be assigned with one or more roles
3. Each service can be accessible to one or more roles.

For details on how to set up the users, services, roles and their relationship to each other, refer to ***Chapter 7, 8 and 9***.

1.3 The Hardware

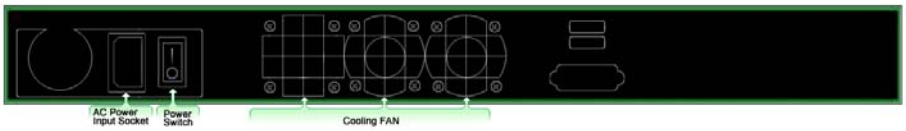
1.3.1 Succendo 502

Front Panel



Interface	Description of Function
Console	A RS232 standard serial port that enables you to connect Succendo to a computer (from which you can then call up a console program such as Window's Hyper Terminal) to issue Command Line commands. Default settings: baud rate 9600b/s, one bit stop, no parity bit.
FE0-FE3	FE0 - FE3 are the four 10/100M Ethernet ports provided by Succendo502.
Power status	Power indicator. Lighted LED indicates that the system is on.
Storage Status	Read/Write indicator. Blinking LED indicates that the system is currently reading/writing data.

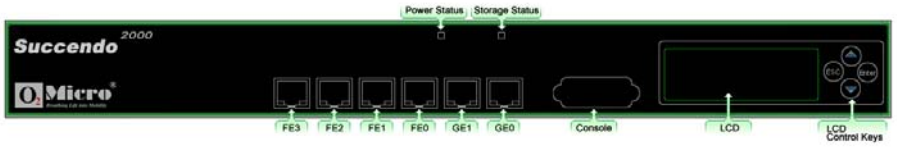
Back Panel



Interface	Description of Function
AC Power Input Socket	Power socket for voltage of 110~230V.
Power Switch	Power switch.
Cooling Fan	Cooling fans to help reduce the heat produce by the device.

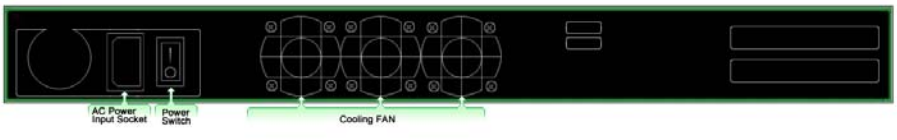
1.3.2 Succendo 2000

Front Panel



Interface	Description of Function
Console	A RS232 standard serial port that enables you to connect Succendo to a computer (from which you can then call up a console program such as Window's Hyper Terminal) to issue Command Line commands. Default settings: baud rate 9600b/s, one bit stop, no parity bit.
FE0-FE3	FE0 - FE3 are the four 10/100M Ethernet ports.
GE0-GE1	GE0-GE1 are the two 10/100/1000M Ethernet ports.
LCD	The LCD displays current system status and information like IP address, system resource usage, number of users online, etc. (See Appendix A for details)
LCD Control Keys	Used for navigating the menu options in the LCD.
Power status	Power indicator. Lighted LED indicates that the system is on.
Storage Status	Read/Write indicator. Blinking LED indicates that the system is currently reading/writing data.

Rear Panel



Interface	Description of Function
AC Power Input Socket	Power socket for voltage of 110~230V.
Power Switch	Power switch.
Cooling Fan	Cooling fans to help reduce the heat produce by the device.

1.4 Connecting Succendo to the LAN

Connecting the device into the existing network involves a few easy steps.

Step 1: Check for system requirements

To start configuring and running the Succendo system, you must have the following software and hardware ready. Please read the content below carefully to ensure a quick and accurate installation and configuration process.

Hardware and software requirements:

1. An IBM-compatible PC (Pentium II 400MHz and above)
    - A CAT 5 UTP network cable, an installed network adaptor (either a fast Ethernet adaptor or a Gigabit Ethernet adaptor)
    - Minimum 256M system RAM
    - Minimum 40M hard-disk space
    - A mouse, an SVGA monitor
    - Supports RS-232 serial port of 9600 Baud rate
    - A crossover serial cable, connecting the serial port of the Succendo system to that of the computer
2. Microsoft Windows 98/2000/NT/XP/2003
3. IE browser support
4. Hyper terminal program

Step 2: Check system parts

Please check the parts in the Succendo system package carefully once you receive it and make sure the following devices are included:

1. 1 chassis of the Succendo system
    - 1 chassis with a pair of rack mounting bracket
2. 5 cables
    - 1 AC power cable: Succendo supports a single point AC power source
    - 1 crossover serial cable: to connect the serial port of the computer to the monitor port of Succendo

- 2 CAT 5 standard network cable: to connect Succendo to your HUB or switch
- 1 CAT 6 crossover network cable: to connect the network port of the computer directly to the control network port of the Succendo system

3. This user manual

Step 3: Connect the Succendo system to the computer, power sources and LAN

This section explains the preparations you must complete before running the Succendo system, which include checking the power source and control cable connection.

1. Check and connect the power source

   The Succendo system only supports AC input of wide voltage range, with the specification of 115~230V 50/60Hz full range.

2. Connect the Succendo system to the computer using the serial cable

   Connect the RS232 port of the Succendo system to the serial port of the computer using the serial cable in the accessories in order to control the Succendo system.

   Please fasten the fasteners of the serial port connector to avoid contact failure.

3. Connect the Succendo system to the computer using the network cable. In general connect the ETH0 of Succendo to your control computer Ethernet port.

4. Start up the system

After you have done the above steps, switch on the system.

1.5 Some default settings

Type	Default value
Eth0 IP address	192.168.1.100
Serial port setting	Baud rate: 9600 Stop Bit: 1 Parity: None
Default administrator username (for Web UI, SSH, Command Line)	admin
Default administrator password (for Web UI, SSH, Command Line)	admin
Default SSL port	443
Default SSL protocol	SSL3.0/TLS1.0

Tips: *Be sure to change the administrator password once you login successfully!*

1.6 Setting up Succendo for remote access

You can access the administration web interface via the Succendo service URL. For example, enter https://Succendo-IP/admin/ and you will see the login page.

Enter the default User Name and Password and enter the Code you see in the Additional Image Code. The Credential Type field should remain as “Password”. Now click “Login” to enter the Administrator interface.

After successful login, you can start administrating Succendo. Before you begin to setup the system’s users, services or corresponding access control policies, you should take note of the following:

1. Change your administrator password (*See* ***Chapter 4: Managing the Administrator Accounts***).
2. Setup the network port IP address (*See* ***Chapter 3: System Configuration***).
3. Setup the system’s route (*See* ***Chapter 3: System Configuration***).
4. Setup the system’s DNS server (*See* ***Chapter 3: System Configuration***).
5. Setup the system’s security options, including the SSL protocol versions (*See* ***Chapter 3: System Configuration***).
6. Setup Succendo’s gateway certificate (*See* ***Chapter 5: Certificate Management***).

Once you have done the above steps, Succendo is ready to provide remote access services for your company.

Chapter

2

The Administration Interface

2.1 Main Screen

After logging on to Succendo, you will be greeted with the welcome page. All options and menu items are accessible from the menu bar found on the left.

If this is your first login to the system, the monitoring page will be displayed; otherwise, it will be the last configuration page you accessed before your previous logout.

Clicking any of the **Language Selector** buttons - <**English**>, <**简体中文**> (simplified Chinese) or <**繁體中文**> (traditional Chinese) – would instantly translate the interface and the text in the Display Window to the corresponding language.

To change the account password, click the **Change Password** button. The **Help Button** provides context sensitive online help.

Clicking the **Logout** button will log you out of the system.

2.2 The Menu Bar

The Menu Bar consists of all the menu options you can access:

2.2.1 System Option

- **Interface** – Set various IP information and interfaces to external system.
- **Information** – Set DNS information
- **Security** – Set security information like crypto strengths, session timeout, etc.
- **Update** – Perform a system upgrade
- **HA** – Configure settings for high availability
- **Backup** – Backup or restore saved settings, or restore factory defaults
- **Tools** – Other tools
- **License** - Enter authorized 16-characters license code
- **Custom** – Customize the interface display images
- **SetTime** – Set system date and timezone
- **NC Configure –** Setup the network environment for Network Connection access
- **NAT –** Setup NAT
- **Virtual Service –** Setup virtual services

*Detailed descriptions can be found in **Chapter 3 – System Configuration**.*

2.2.2 Administrator Option

- **Account** – Manage administrator accounts
- **Locked Admin** – View and unlock locked accounts

*Detailed descriptions can be found in **Chapter 4 – Managing the Administrator Accounts**.*

2.2.3 Certificate Option

- **Local CA –** Local certificate
- **Trusted CA** – Manage third-party trusted certificate
- **Gateway Certificate** – Manage gateway certificate
- **Certificate Request** – Generate Gateway certificate request
- **Protection Key** - This is the protection key (password) for the certificate

*Detailed descriptions can be found in **Chapter 5 - Certificate Management**.*

2.2.4 Authentication Option

- **Server** – Manage authentication server

*Detailed descriptions can be found in **Chapter 6 – Authentication Servers**.*

2.2.5 User Option

- **Group** – Manage user groups
- **User Accounts** – Manage user accounts
- **Locked User** – View and unlock locked users

*Detailed descriptions can be found in **Chapter 7 – User Management**.*

2.2.6 Service Option

- **Service List** – Manage services
- **Client Application** – Manage client applications
- **Service Type** – Specify the various service and application types for the client-end
- **IP Host** – Set up the mapping between the Intranet host names with the corresponding IP addresses

*Detailed descriptions can be found in **Chapter 8 – Service Management**.*

2.2.7 Role Option

- **Role List** – Manage Roles

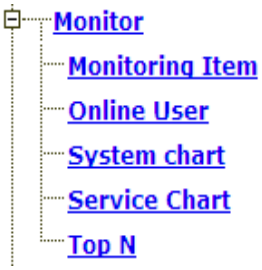
*Detailed descriptions can be found in **Chapter 9 – Role Management**.*

2.2.8 Log Option

- **Config** – Configure Log settings and parameters
- **Log Query** – Search and view logs

*Detailed descriptions can be found in **Chapter 10 – Log management**.*

2.2.9 Monitoring Option



- **Monitoring Item** – Display various status and parameters of the running system
- **Online User** – View and terminate current online users
- **System Chart** – Display various system charts (memory usage, CPU usage, etc)
- **Service Chart** – Display current services
- **Top N** – Display Top N information

*Detailed descriptions can be found in **Chapter 11 – System Monitoring and Control**.*

2.2.10 Client Policy Option

- **Rule** – Rules that decides whether the system should perform a host check or cache clear
- **Policy** – Policies are made up of Rules

*Detailed descriptions can be found in **Chapter 12 – Client Policies**.*

2.2.11 Access Rule List

- **Config** – Configure ARL settings

*Detailed descriptions can be found in **Chapter 13 – Access Restriction List***

2.2.12 IP Pool List

- **IP Pool List –** Add the IP Pools to be assigned to users for NC access

*Detailed descriptions can be found in **Chapter 14 – Network Connection***

Chapter

3

System Configuration

System options are necessary for configuring an environment and various parameters under which Succendo operates. The options here include setting the IP and DNS information, determining system upgrades, etc.

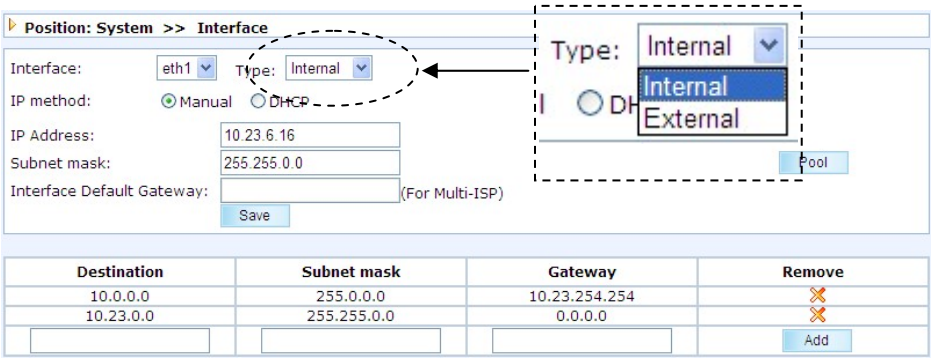
Succendo provides two forms of user interfaces for system configuration. One is a web-based interface which you can access using any web browser, and the other is via command line (CLI) supported on console through the serial port.

There are several important commands in CLI, including restoring factory settings, specifying internal Ethernet interface IP information, and setting the system's run mode. For more details on CLI, refer to ***Chapter 15 Shell Commands***.

This chapter will describe the various system options accessible through the web-based interface. These options are accessible by clicking the "**System**" menu item on the Menu Bar, and then click the sub-menu items.

3.1 System >> Interface

Succendo has several Ethernet interfaces which can be divided into two types: internal interfaces which are connected to the internal application servers; and external interfaces which are connected to external clients. You can configure the IP address, net mask, default gateway and static route of internal and external interfaces.



Interface: Select the port (named eth0 to ethN. The number of ports available for selection depends on the Succendo model. For example, Succendo 502 has four ports. Thus, eth0 to eth3 are available for selection.)

Type: Select "Internal", "External"

IP Method: Select "Manual" to specify the IP address or "DHCP" to obtain the IP address from the DHCP server on an accessible network

IP Address: IP address of the port

Subnet mask: Subnet mask of the port

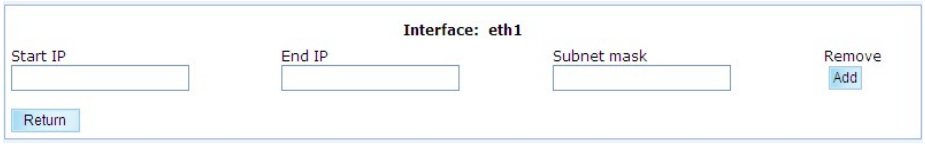
Interface Default Gateway: The IP address of the default gateway for this interface for multiple ISPs. This field is only displayed if the **Type** is "External".

Click <Save> to save the IP information.

3.1.1 Adding IP Pool

If you have selected “Internal”, you will notice an additional <Pool> button appear on the right of the interface.

Clicking the <Pool> button will allow you to define the IP Pool for the interface:



Enter the **Start IP** address, the **End IP** address and the **subnet mask** into the respective text boxes. Click <Add> to add this IP Pool, or <Return> to return to the previous screen without saving.

Note: *IP addresses must belong to the same network segment as the port address or you will not be able to add the pool.*

Also, the port’s IP address must not be within the range of addresses defined in an IP address object.

3.1.2 Adding more Static Routes

The list on the lower part of the main interface is a list of static routes added. You can add more routes by entering the **Destination** IP address; **Subnet mask** and **Gateway** address into the respectively text boxes, then click <Add> to add the route.

3.2 System >> Information

The top part of this screen displays information about the system's interfaces such as type and status.

You can also decide whether users can or cannot access the SSH or the Gateway. This is done by toggling start or stop (the option which is not hyperlinked represents the current status) for the respective access means.

If services use the domain name of the application server, you can tell Succendo the location of the DNS servers so that the domain name can be resolved. Once the configuration page appears, type in the **Hostname**, **Domain**, **Primary DNS** IP address and **Secondary DNS** IP address accordingly. Click <Save> to save the settings.

3.3 System >> Security

This is where you set the various security features such as the crypto strength, various timeouts, lock period etc. On the configuration page, select "**Accept SSL V2 and V3 and TLS**" to accept SSL protocols versions V2, V3 and TLS. If this field is unselected, then the system will only accept SSL V3 and TLS. Complete the rest of the fields:

Crypto Strength:	Select from the strength of "Low", "Medium" or "High". See **Section 3.3.1** for details
Listen Port:	Listening port number
Session Timeout:	Specify duration of inactivity after which the session timeouts
User timeout:	Specify duration of inactivity after which the user timeouts and is automatically logged out of the system
Session Number per user:	Maximum number of concurrent sessions each user can activate
Login try times:	Maximum number of unsuccessful attempts allowed for user to login
Lock period:	Lockout duration of deactivated or locked users (in minutes). Users will be unlocked

automatically after this period

Global Check status: Determine if the system will activate the Host Check policy before login (see ***Chapter 12, Section 12.2.1***)

Login validate code: Select whether to use additional image code at the Login screen, as shown in the example below:

Users logging in are required to enter the code displayed in the box into the **Code** field as part of their user verification. This prevents the middle-man attacks where login requests are randomly and periodically issued.

You can turn this feature off by de-selecting the **Login validate code** checkbox here. Select it to turn the feature on

Prevent against 'syn flood attack': Select this option to specifically guard against SYN flood attacks

ARL Default Action: The ARL default action determines a user's ability to access the VPN from certain IP addresses or port in the event where ARL is defined for none or some of these IP addresses and ports

To see the ARL Default Action's impact on a user with ARL defined, and general information on ARL, please see ***Chapter 13***

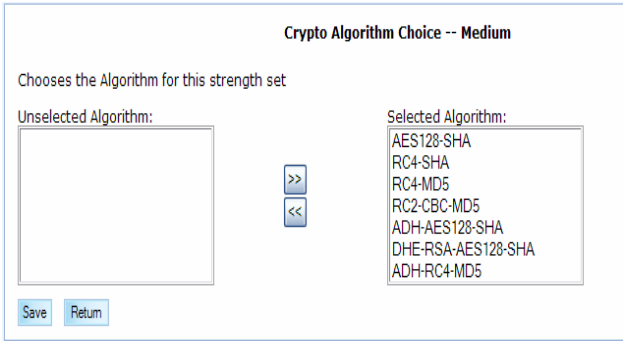
AACR Default Action: The AACR default action determines the nature of a service's commands in the event where AACR is defined for none or some of them (For details on defining AACR for a service, refer to ***Chapter 8, Section 8.2.4***)

If no AACR defined for a service at all, all its commands are defaulted to "Permitted", regardless of what is defined here in the **AACR Default Action**

If AACR is defined for some of the commands in a service, then those without an AACR will follow what is set here in the **AACR Default Action**

3.3.1 Crypto algorithms

Besides selecting the strength (low, medium or high) of the encryption, you can also select the algorithm for the particular strength. As shown in the following diagram, the algorithms currently active for the strength selected appears in the "Selected Algorithm" list box, and the inactive but available algorithms appear in the "Unselected Algorithm" list box.



Clicking and highlighting an item (or items) from the "Unselected Algorithm" list box, then clicking >> will move the item(s) to the "Selected Algorithm" list box.

Likewise, clicking and highlighting an item (or items) from the "Selected Algorithm" list box, then clicking << will move the item(s) to the "Unselected Algorithm" list box

Alternatively, simply double-click an item to move it from one list to the other. Click <Save> to save any modifications.

Warning: *Wrong selection of algorithms may cause Succendo to be inaccessible.*

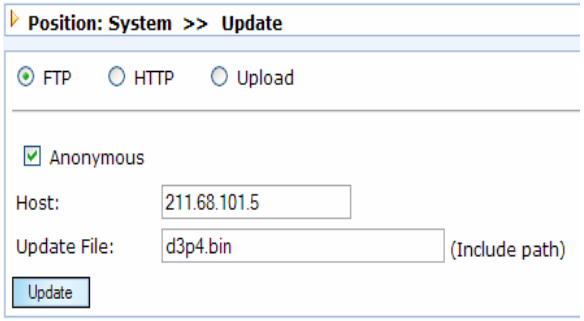
3.4 System >> Update

You can update the system with new upgrade packages via FTP, HTTP or uploading from the local hard drive.

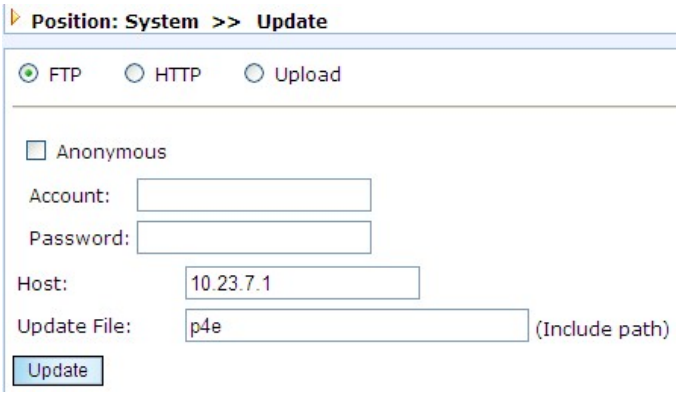
3.4.1 Update via FTP

When selecting to update via FTP, you will have to fill up fields corresponding to whether you choose anonymous login or not, as shown in the screenshots below, and click <Update>:

(With Anonymous login selected)



(With Anonymous login unselected)



Anonymous: Select whether to login to the FTP server anonymously

Account: For non-anonymous login, you will need to enter the account name (user ID)

Password: For non-anonymous login, enter the password

corresponding to the account name above

Host: The IP address of the FTP server. Include port number if necessary

Update File: The name of the file to download. Include the full path of the file

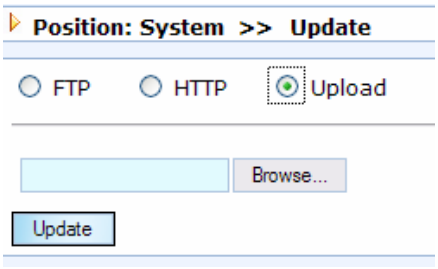
3.4.2 Update via HTTP

For update via HTTP, complete the required fields and click <Update>:

Host: The IP address of the HTTP server

Update File: The name of the file to download. Include the full URL path of the file

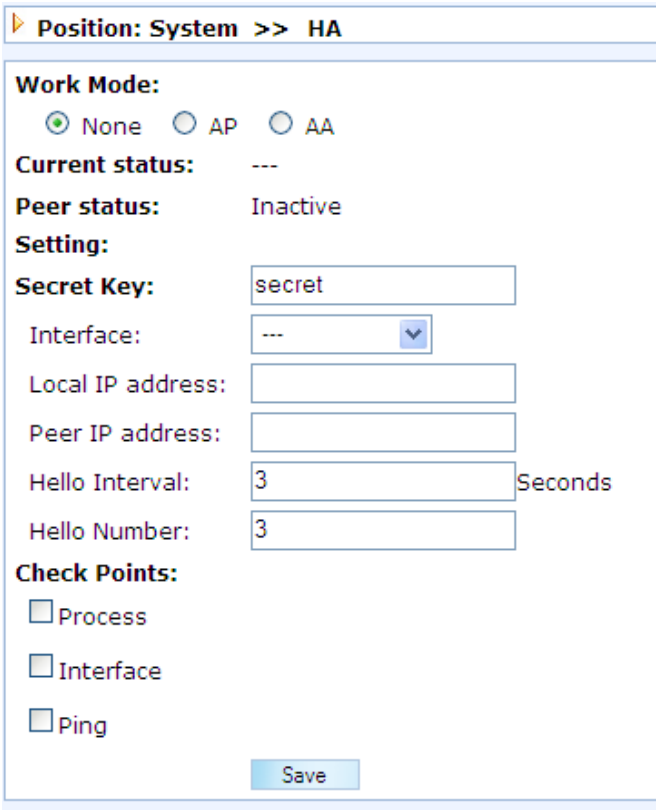
3.4.3 Update via Upload



You can type in the filename (its full path) into the text box directly, or click <Browse …> to select the file from a "Choose File" dialog box. Then click <Update> to update with the file.

3.5 System >> HA

Succendo comes with a High Availability (HA) feature using either dual standby or dual load mechanisms.



First, select the HA **work mode**. (**Note:** If HA is activated, both Succendo devices must be working in the same HA mode.) There are 3 modes you can select from:

1. **None**: Do not activate HA
2. **AP**: Activate dual standby mode. One server will become the "master" while the other is the "slave"

When **AP** is the selected HA **work mode**, you must configure the Float IP. Remote clients will use this IP address to access services on the "master" server. In **AP** mode, the Float IP must be the same for both the "master" and the "slave" servers so that client connections will not be disrupted when the "slave" takes over as the "master" in the event of a failure. Configure the Float IP by filling up the fields:

Interface: The interface through which services are remotely accessed

IP Address: IP address for the interface. **Note:** This address must be identical for both Succendo servers

working together in HA mode

Subnet mask: IP address's subnet mask

3. **AA:** Activate dual load mode. In this mode, both servers are providing services to clients.

When a client attempts to access a service, it compares the network load of both servers and the status of the connection between the client machine and the servers. The client then determines which server has a better availability status to access the service from.

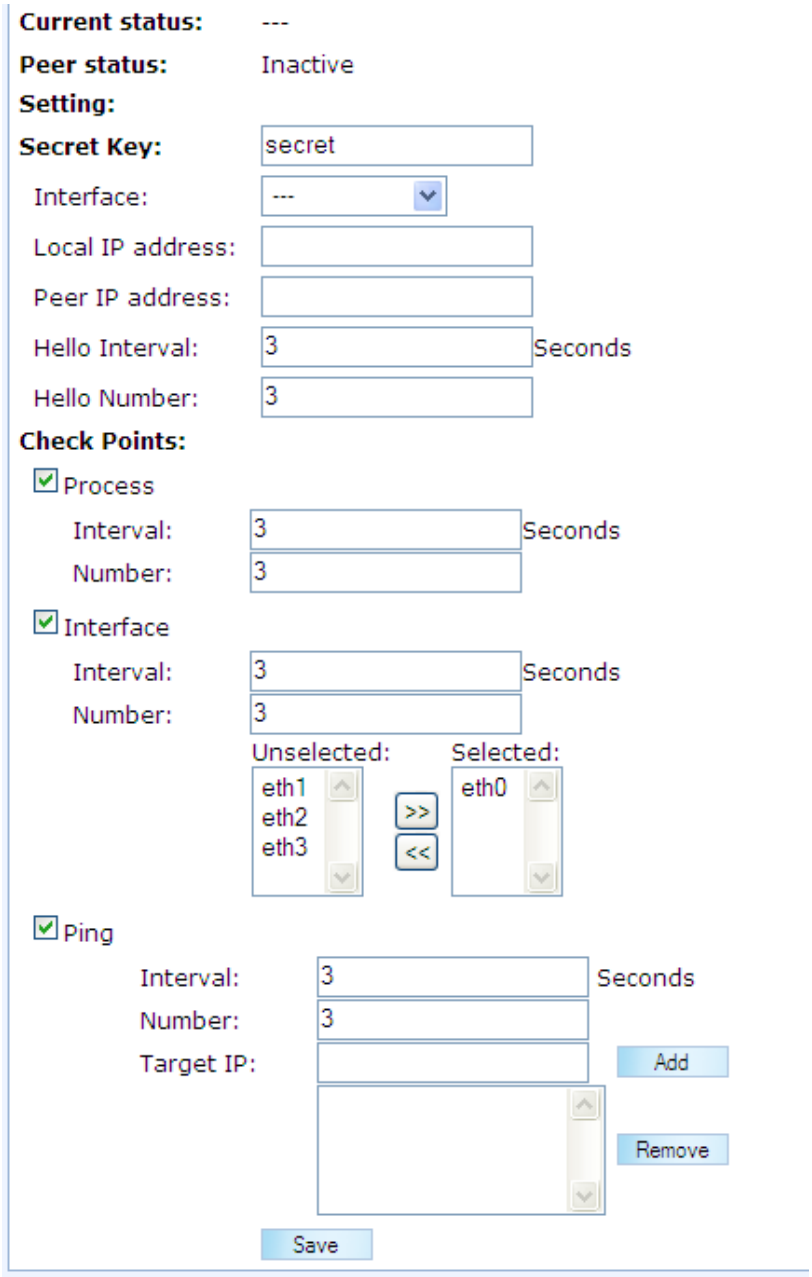
The client initially connects only to 1 server and obtains the address of the other server from this initial server. Hence, the IP address and the port number of each server must be configured on the other. This is configured as the Map IP. When both servers are behind a firewall, the Map IP is the translated external address of the server. In the absence of a firewall, the Map IP is the direct external IP address of the server. Configure the Float IP by filling up the fields:

Interface: The interface through which services are remotely accessed

IP Address: IP address for the interface. **Note:** This address must be different for the two Succendo servers working together in HA mode

Port: The interface port number

After selecting the HA working mode, configure the other settings as shown below.



Current status: Current HA status of this server (active/inactive)

Peer status: HA status of the peer HA server (active/inactive)

Setting:

Secret Key: Encryption key used to encrypt data transmitted by the HA server. **Note**: Both HA servers must have the same **secret key**

Interface: Interface used to communicate with the peer HA server

Local IP Local IP address of the HA interface

address:

Peer IP address: Peer server's interface IP address

Hello Interval: Interval of time between sending Hello messages (seconds)

Hello Number: If the server does not receive Hello messages consecutively for this number of times, the server will deduce that the peer server is down and changes the **peer status** to "inactive". If this is a "slave" server in AP mode, the server will automatically change to become the "master" server.

Note: This value must be identical for both HA servers

Check Points - System checks to be performed by the server to determine its status and inform the peer server accordingly. There are three checks available for selection: **Process**, **Interface** and **Ping**

Process:

Interval: Time interval between each system process check (seconds)

Number: Inform the peer server if the number of process checks that detected process failure reaches this **number.** If the peer server is the "slave" under AP mode, the peer server will automatically change to the "master" status

Interface:

Interval: Time interval between checks on interface working status (seconds)

Select the interfaces to check by moving the interfaces from the "Unselected" list to the "Selected" list and vice versa

Number: Inform the peer server if the number of interface checks that detected interface down status reaches this **number**. If the peer server is the "slave" under AP mode, the peer server will automatically change to the "master" status

Ping:

Interval: Time interval between the sending of ping packets (seconds)

Number: Inform the peer server when the number of times ping replies were

not received equals to this **number**. If the peer server is the "slave" under AP mode, the peer server will automatically change to the "master" status

Target IP: Target IP address to ping. Click <Add> to add multiple target ping IP addresses. Click <Remove> to remove an IP address from the target list

3.5.1 HA Synchronization

When the two devices working in HA are first activated in AP, the slave device will perform an initial synchronization with the master device. In AA mode, the device that was activated later will perform the initial synchronization with the device activated earlier. The initial synchronization ensures that both devices have the same configuration state upon activation

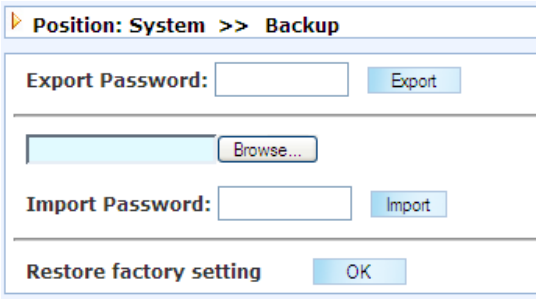
After the initial synchronization, either device can perform synchronization with the other. Hence, any changes on the slave device can also be synchronized to the master device and vice versa.

The following settings will not be synchronized:

- System device name;
- Software version;
- License;
- Customized settings in "**System >> Custom**";
- NAT information;
- HA parameters;
- Log contents;
- Interface settings and interface route information;
- Monitoring contents other than "Online User"

All settings other than the above listed will be synchronized between the two devices.

3.6 System >> Backup



You can backup the current system configuration into your local disk, restore a previously saved configuration, or restore the original factory settings.

3.6.1 Export system settings

Click the <Export> button to save the current system settings into the local memory. Then click <Download> when given the option. The system will then further prompt you to save the settings into a file named "sysbackup.bin" (you can also enter another filename). Click <Save> to save the file or <Cancel> to abort the operation.

3.6.2 Import system settings

To import previously saved settings, first select the configuration file from your local disk by click <Browse> (or enter the full path and filename directly into the text box), then click <Import>. After a confirmation prompt appears, click <OK> to continue to import or <Cancel> to abort importing. Note that all current configurations including address, password and license information will be overwritten by the imported settings. As different Succendo models may differ in their configuration settings, you cannot import a configuration backup file from a different model. Note also that the configuration backup file from one Succendo device cannot be imported into another device.

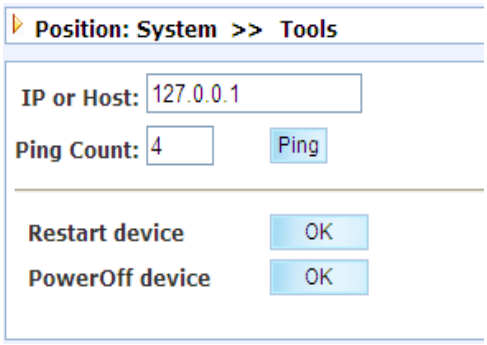
Warning: *Importing settings would restart the device automatically.*

3.6.3 Restore original factory settings

To restore the original factory settings, click the <OK> button besides **Restore Factory Setting**. After a confirmation prompt appears, click <OK> to continue to restore, or <Cancel> to abort the action.

3.7 System >> Tools

This menu item contains various tools to assist the Administrator.



IP or Host: IP address or DNS name to ping

Ping Count: Ping count

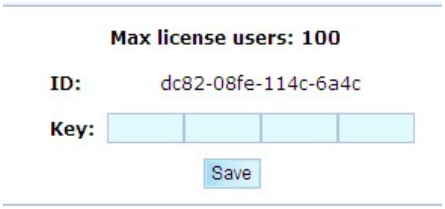
Ping: Click this button to ping the IP address or DNS name specified above

Restart Device: Restart Succendo

PowerOff Device: Switch off the Succendo device

3.8 System >> License

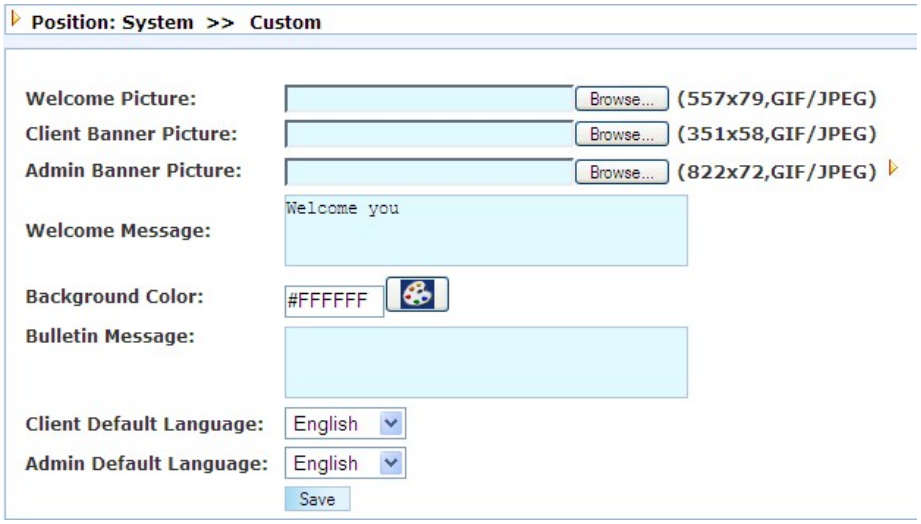
The page indicates the maximum number of authorize users for this license and the license ID (as shown in the example screenshot below).



To update the license, enter the new license **Key** obtained from the manufacturer and click <Save>.

3.9 System >> Custom

Here you can upload and customize the displayed images on the user interface.



Click <Browse> and select the image files to upload for the various display areas including **Welcome picture** (at the login page)**, Client banner picture** (what users would see in their client-end home page) and **Admin banner picture** (what admin users would see in their admin home page). The remaining customizable features include:

Welcome Message:	Message to be displayed on the login screen
Background Color:	Enter the color code or click the palette button to select the color. This corresponds to the background color of the end-user interface
Bulletin Message:	Bulletin message shown on the top right area of the end-user interface
Client Default Language:	Default language for the end-user interface
Admin Default Language:	Default language for the administrative interface

3.10 System >> SetTime

From this interface window, you can configure the system's date and time settings. Set the system Date and time using the Date Picker . Then select the Time Zone (Continent/City) from the drop down box.

Note: *In the Date Picker interface, you must set the time first before selecting the date.*

3.11 System >> NAT

Select "**System >> NAT**" to view the list of source NAT (**SNAT**) and destination NAT (**DNAT**) mappings currently defined in the system.

3.11.1 Source NAT

The top half of the screen displays the **SNAT** list. To add a new SNAT, configure the following parameters

Source Address:	Source IP address of the packet
Netmask:	Corresponding network mask for the source IP
Destination IP:	Destination IP address to translate to
Interface:	SNAT will be performed for matching packets arriving at this interface

To remove a SNAT, click the corresponding icon from the rightmost column of the list.

3.11.2 Destination NAT

The bottom half of the screen displays the **DNAT** list. You can add a new DNAT by specify the following parameters in the textboxes from the bottom of the list.

Protocol:	The protocol (TCP or UDP) of the packet to perform the translation on
Source IP:	Source IP address
Source Port:	Corresponding source port number

Destination IP: Destination IP address of the packet to perform the translation on

Destination Port: Corresponding destination port number

Click <Add> to add the new DNAT mapping. To remove a DNAT, click the corresponding icon from the rightmost column of the list.

3.12 System >> Virtual Service

To protect the Intranet's server information of servers providing services that can be remotely accessed, you can setup virtual service on Succendo. This function is similar to destination network address translations with the added functionality of being able to perform SSL encryption.

To add a new virtual service, specify the following parameters in the textboxes from the bottom of the list:

Port: Virtual port number of the service

Destination IP: Actual IP address of server providing this service

Destination Port: Corresponding port number of the service

Use SSL: Select whether to use SSL encryption

Click <Add> to add the new virtual service. To remove a virtual service, click the corresponding icon from the rightmost column of the list.

Note: *When defining ports for **NAT** or **Virtual Service,** the port number must not be the same as Succendo's reserved ports (1-22) or the SSL listening port (default 443)*

Chapter

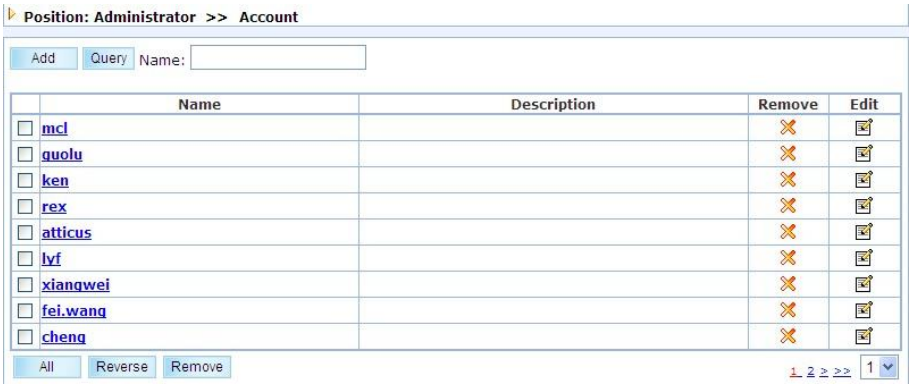
4

Managing the Administrator Accounts

Here is where you can manage the administrator accounts – to add, edit or delete them. Succendo is configured with a default administrative account. The default account name is “admin” and the default password is “admin”. Note that you will not be able to remove this root account.

4.1 Managing Accounts

You should create a few administrative accounts to suit your needs, giving each one admin capability, limited based on their function and role. To manage these accounts, click the menu item “**Administrator**” on the menu bar, and click the sub menu items to access the function you need. The diagram below shows the Account management screen.



The screen displays a list of accounts created, hyperlinked account names and buttons for ease of performing various functions.

This list shows the accounts created previously. Each page shows a maximum of 10 accounts, and you can navigate between pages by

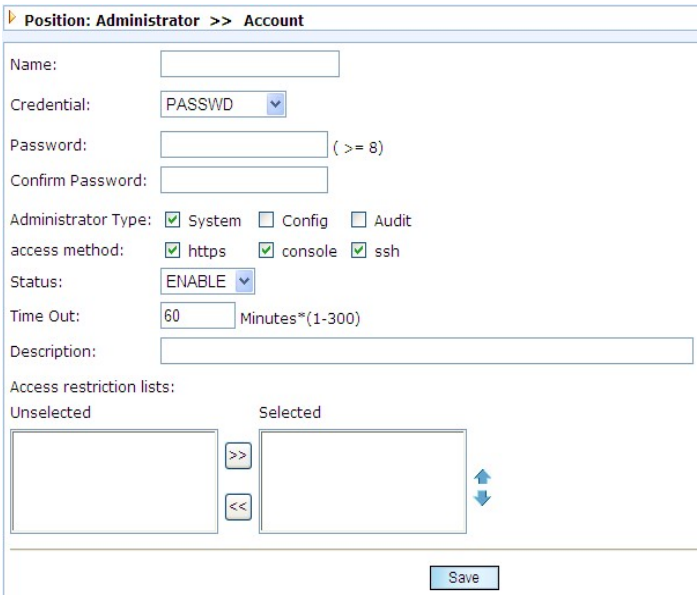
clicking on the page hyperlink at the bottom right corner of the screen.

The list itself contains the account names, their corresponding descriptions, and the option to delete (the icon) and edit (the icon) the account. To add a new account, click <Add>.

Clicking the <All> button will select all the accounts displayed on the current page (if the list spans more than one page). Clicking <Reverse> will unselect selected accounts and select unselected accounts.

4.1.1 Add new account

Click <Add> to add a new administrator account. The add account screen will be displayed, as shown below:



Name: Account name. Username for logging in.

Credential: Type of verification (default is "PASSWD")

Password: Account password (if **Credential** is "PASSWD")

Confirm Password: Retype account password to confirm (if **Credential** is "PASSWD"

Certificate: Select the certificate file to use for this admin account (if **Credential** is "CERTIFICATE")

Administrator Type:

Determines the type of functions available for this admin account:

1. System – able to access all system functions
2. Config – able to access all configuration functions
3. Audit –able to access all the log functions

Here's a summary of admin rights of different administrator type:

	Sys	Admin	Cert	Auth	User	Svc	Role	Log	Monitor	Client Policy	ARL
System	*RW*	*RW*	*R*	*R*	*R*	*R*	*R*	*R*	*R*	*R*	*R*
Config	*RW*		*RW*	*RW*	*RW*	*RW*	*RW*	*R*	*RW*	*RW*	*RW*
Audit								*RW*	*R*		

***Legend*:**

Sys – System options
Admin – Admin accounts
Cert – Certificate Management
Auth - Authentication
User – User Management
Role – Role Management
Log Config – Configuring Log Option
Monitor – Monitors option
Client Policy – Policy Management
ARL – ARL Management

RW – Read-Write
R – Read only

Access Method: Determines the method of accessing Succendo that is available to this account:

1. https – via web-based interface
2. console – via the device console
3. ssh – via SSH connection

Status: Enable, disable or lock the account

Timeout: Session timeout for this account

Description: Brief description of the account (a max. of 128 characters)

Access Restriction List: These are ARL that were created earlier (see ***Chapter 13*** on details of ARL). Select the ARL from the "Unselected ARL" list into the "Selected ARL"

Once you are done, click <Save> to create and save the new password account.

To create a Certificate account, select "CERTIFICATE" from the Credential field and upload the Certificate via the <Browse…> button.

4.1.2 Edit existing account

There are two ways to view and edit an existing account.

- Click the icon corresponding to the account name you want to edit. The icon is found under the "Edit" column in the account list.
- Directly clicking the hyperlinked account name.

Using either method will bring up the account configuration window. After editing the information, click <Save> to save the modification, or <Reset> to undo the changes.

Note: *The **Credential** field will not be editable when editing existing accounts.*

4.1.3 Delete existing account

To delete an account, click the icon corresponding to the account name you want to delete. The icon is found under the "Delete" column in the account list. A confirmation dialog box will pop up to confirm your deletion.

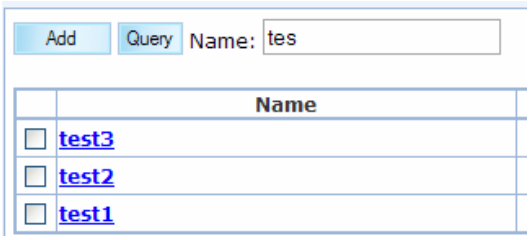
You can also select multiple accounts by clicking the check box next to them, and click <Remove> to delete them en masse.

4.1.4 Query for accounts

The default listing when you first access the account page lists all existing accounts in the database (divided into pages, if there are more than 10 existing accounts). To narrow down the list to show specific accounts, you can use the <Query> button.

Type the name of the account you want to view and click <Query>. The system will search through the database and list the accounts matching the name you typed.

Using this feature, you can query for multiple accounts with similar names easily. The query system does not accept wild card character (e.g. "*" and "?"). If the text box is blank when you click <Query>, the entire list of accounts in the database will be displayed.

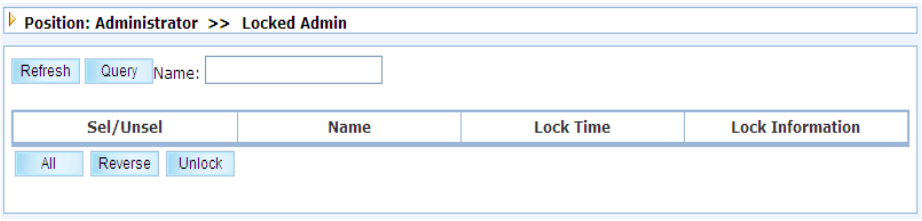


Note that the system will also search for accounts whose user name contains the phrase you typed in the query box. For example, typing "tes" into the text box and click <Query>, the system will yield accounts such as "test1", "test2", "test3" etc.

4.2 Locked Accounts

Admin accounts can be locked for two reasons: they are locked by administrators (by manually changing the **Status** field of the account), or by the system (after user exceeded the maximum number of unsuccessful login attempts).

Click "**Administrator >> Locked Admin**" to see a list of admin accounts that are currently locked:



Name shows the account name of the locked user

Lock Time shows the date and time of the user's last unsuccessful login attempt before being locked out, or the date and time the user was manually locked by another administrator.

Lock Information shows the IP address from where the user was attempting to login from. If the user was locked manually by the administrator, then the column shows the user name of the administrator who locked the user.

Check the checkbox in the **Sel/UnSel** column corresponding to the locked user in the list or click the <All> button to select all the users in the current page of the list (if the list spans more than one page). Clicking <Reverse> will unselect the selected users while selecting the unselected. The <Refresh> button updates the list while the <Query> button allows you to search for locked admin users based on the account name. See ***Section 4.1.4*** for details on query for users.

4.2.1 Unlocking the users

To unlock the admin users, select the users by clicking in their corresponding check boxes, and then click the <Unlock> button. Alternatively, just change the **Status** value when editing the user (see ***Section 4.1.2***)

Note that admin users locked by the system will be automatically unlocked when their locked period expires. The locked period for all users can be set in the Security settings. (See ***Chapter 3, Section 3.3*** for details).

Chapter

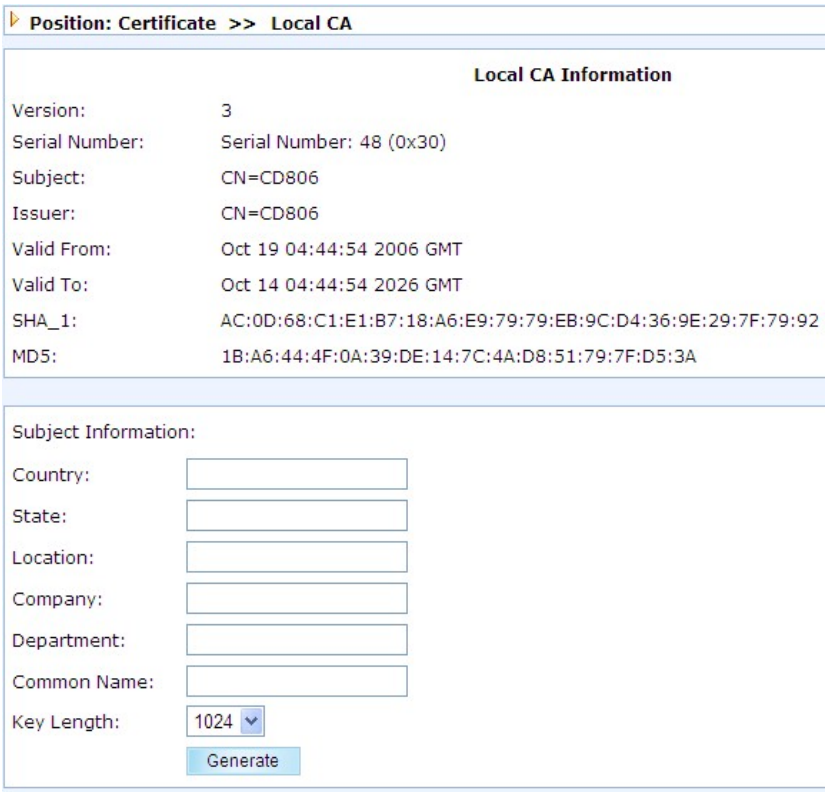
5

Certificate Management

Certificates for SSL-VPN gateway can be generated by Succendo, or by importing from a third party. Succendo also supports end user certificate verification via third party trusted certificate chain. There are several ways to get CRL based on the third party trusted certificate. We will first look at how to add a Local CA.

5.1 Local CA

Select "**Certificate >> Local CA**". The details of the current local CA used by the system are displayed in the top half of the screen.



To generate a new local CA, complete the following fields in the bottom half of the screen. Note that only one local CA is saved in the system at any time.

Country:	Country where the Succendo server is situated
State:	Name of the state
Location:	Specific location name
Company:	Organization name
Department:	Certificate user department
Common Name:	Publicly known name of this certificate
Key Length:	Length of the security key (1024/2048/4096)

Click <Generate> to generate the local CA. A display window appears when the local CA is successfully generated. Click <Return> to return to the local CA interface.

5.2 Trusted CA

Trusted CA represents the issuer CA of user certificates. You can setup whether or not to trust the possible issuer CAs using this function. Select "**Certificate >> Trusted CA**" to see a list of Trusted CA.

You can toggle the **Trust** column between "Yes" and "No", to indicate if the certificate is to be trusted or not.

You can toggle the **CRL** column between "Yes" and "No" to instruct Succendo to check or ignore the CRL of this CA.

To delete a certificate, click the icon under the "Remove" column of the certificate. To delete multiple certificates, select the certificates by clicking the check boxes next to the certificates, and click the <Remove> button.

5.2.1 Viewing the certificate information

You can view the certificate information by clicking the icon under the **View** column of the certificate you want to view. You can click the <CRL> button to see the CRL information, if any.

5.2.2 Configuring the CRL

To configure the CRL, click the icon under the **CRL Config** column corresponding to the certificate you want to configure. From the configuration page that appears, select the type of CRL and select whether the information will be retrieve automatically periodically. Click <Get> to upload the information.

5.2.3 Adding a CA

To add a new certificate, click the <New> button and then follow the steps below:

1. Click the <Browse> button to select the certificate file from the local drive you want to import.
2. Select whether to include CRL by selecting the checkbox beside **CRL**
3. Enter descriptions, if any.
4. Click the <Import> button to start the importing process.

If the import is successful, you will see the import success page.

5.3 Gateway Certificates

To see the current list of gateway certificates installed, select "**Certificate >> Gateway Certificate**". The list is as shown here:

Select the gateway certificate you want Succendo to use by toggling the certificate's **Using** column to "Yes". Only one certificate's **Using** column can be toggled to "Yes" at any time – the rest must remain as "No".

Click the icon under the **Update** column to regenerate the self-sign certificate.

Clicking the <All> button will select all the certificates in the current page of the list (if the list spans more than one page). Clicking <Reverse> will unselect the selected certificates while selecting the unselected.

To delete a certificate, click the icon under the "Remove" column of the certificate. To delete multiple certificates, select the certificates to delete by clicking the check boxes next to the certificates, and click the <Delete> button. Note that you can only remove certificates that are not in use (i.e. "No" in the **Using** column).

5.3.1 Viewing the certificate information

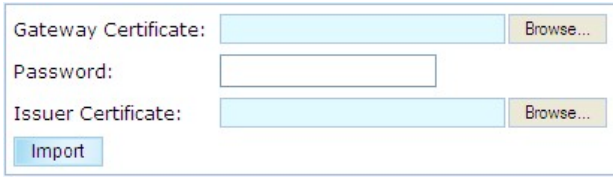
You can view the certificate information by clicking the icon under the **View** column of the certificate you want to view. The certificate information will be displayed. To see the Issuer's certificate information, click the <Issuer Cert> button at the left hand corner and the relevant information will be shown.

5.3.2 Installing a new gateway certificate

There are 3 ways to install gateway certificates: you can import one from your local disk, generate one from the system, or request one from third-party (see ***Section 5.4***)

1) Importing the certificate

Click the <Import> button from the certificate list to open the Import Certificate screen as shown below:



Select a Gateway Certificate and an Issuer Certificate from your local drive by using the <Browse> button. The Gateway certificate file in particular, should have ".pfx" as an extension, and is protected by a password. Enter the password for the ".pfx" file into the **Password** text box.

The **Issuer certificate** file should be of extension ".cer" or ".p7b" If the issuer certificate is a multi-level CA, the certificates for each of these CA must be placed within the same ".p7b" file to be uploaded.

Click <Import> to begin the importing process. If the import is successful, you should see the success screen.

2) Generating a self-signed certificate

To generate a new self-signed certificate, or to regenerate an existing self-signed certificate (denoted by a "self" in the **From** column) with a new set of data, click the <Generate self-sign certificate> button.

Domain or IP: The gateway's domain name or IP address

Country: Country of origin

State:	State of origin
Location:	Location of origin
Company:	Organization name
Department:	Certificate user company department
Key Length:	Length of the security key (select from 1024, 2048 or 4096)
Validity:	Validity of the certificate (number of months)

Click <Generate> to generate a new self-signed certificate or regenerate an old one.

The third way to install a certificate is to perform a certificate request, which is described in the next section.

5.4 Certificate Request

There are 3 steps to request for a certificate. Step 1 requires you to fill up the certificate request information (which is identical to the Gateway information fields in ***Section 5.3.2*** above). After completing the fields, click the <Generate> button and the next screen shows Step 2 and Step 3:

Copy the request information in the text box for your third-party certificate server to request for the required certificates.

When you receive the Gateway Certificate and the Issuer Certificate, import the files into the system in Step 3 to complete the request. If the import is successful, you will see a message indicating that the certificate is uploaded successfully.

5.5 Protection Key

Select **"Certificate >> Protection Key"** to set the private key protected password. Note that this private key is used for all Succendo gateway and local CA certificates. Complete the required fields (enter the **New Protection Key** and retype it in **Confirm Protection Key**). Click <Save> to save the new key.

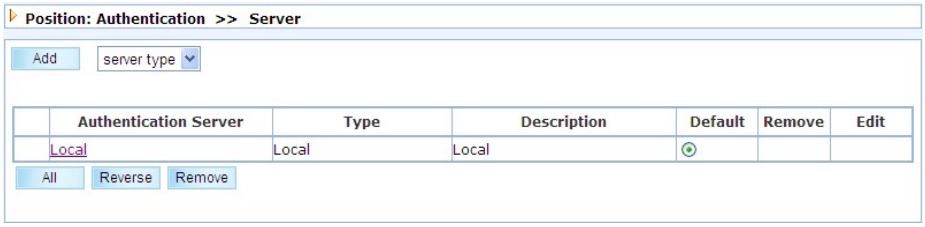
Chapter

6

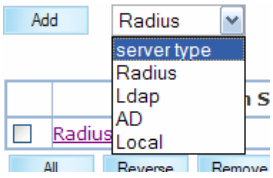
Authentication Servers

Succendo supports 4 types of authentication servers, namely, local (default), Radius, Windows Active Directory (AD), and LDAP.

Select "**Authentication >> Server**" from the menu bar to see the existing server list:



The default list will show all existing authentication servers, regardless of the type. However, you can narrow down the list to display a specific type of servers by selecting "server type" from the drop box.



Click on the drop down box to select the type of authentication server you want to see. Once a type is selected, the server list will be refreshed and a list of servers of that specific type will be displayed.

You can add a new server, delete and edit existing ones.

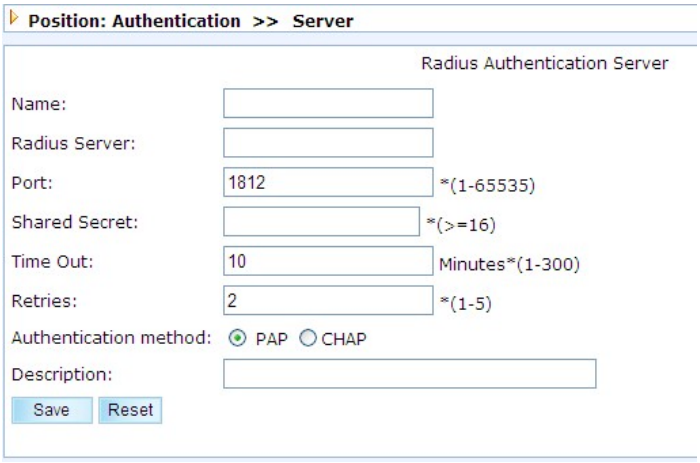
To set an authentication server as the default server for authentication, click the corresponding radio button found under the "Default" column.

6.1 Adding new authentication server

To add a new server, first select a server type from the drop down box. The current page will be refreshed automatically, displaying the list of servers matching the type selected. Click the <Add> button. If a "local" server type is selected, the local server configuration screen will be displayed instead (see ***Section 6.1.4***).

6.1.1 Adding Radius Server

Complete the fields for a Radius Server:



Name: Name of the Radius Server

Radius Server: The IP address of the Radius Server

Port: Port number

Shared Secret: Shared secret password defined by the Radius server, used to encapsulate or to unpack messages. The password should be at least 16 characters in length

Time Out: The duration of time for the Radius server to respond to the authentication request, after which the request timeouts and Succendo resends the request

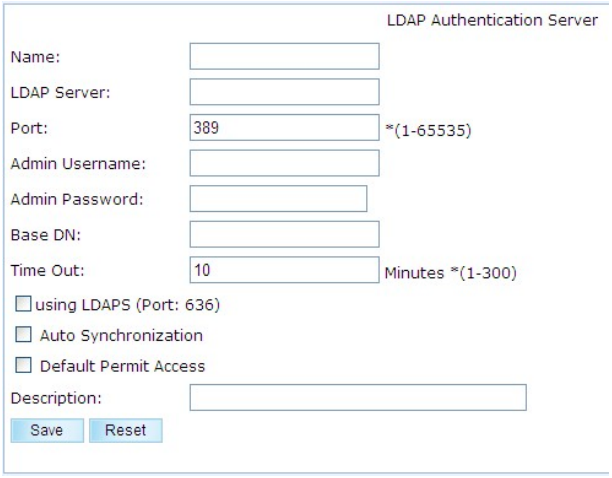
Retries: The number of times the system resends authentication requests if the previous attempt fails.

Authentication method: Select either PAP or CHAP

Description: Brief description of the server (max. 128 characters)

6.1.2 Adding LDAP Server

Complete the fields for a LDAP Server:



Name: Name of the LDAP Server

LDAP Server: The IP address of the server

Port: Port number

Admin Username: Administrator's username used to log onto the LDAP Server

Admin Password: The corresponding admin password

Base DN: The point where the search begins in the directory

Time Out: The duration of time for the LDAP server to respond to the authentication request, after which the request timeouts and Succendo resends the request

Using LDAPS: To enable LDAP over SSL

Auto Synchronization: Check to enable automatic synchronization of selected group and user information from the remote LDAP server onto the Succendo server when the LDAP server is modified. (once per hour)

Default Permit Access: Check to enable the authentication of user logins for users not yet added into the Succendo server. If checked, Succendo will send the login entries to the LDAP server for authentication. Upon successful authentication, the user will be automatically added into the Succendo server.

If unchecked, the user's login will fail even if his username and password are correct

Description: Brief description of the server (max. 128 characters)

Click <Save> to add the server once all parameters are specified.

6.1.3 Adding AD Server

Complete the required fields for an AD Server:

Name: Name of the AD Server

Domain: Domain name of the server

Active Directory Server: The IP address of the server

Admin Username: Administrator username for logging onto the AD Server

Admin Password: The corresponding admin password

Base DN: The point where the search begins in the directory

Time Out: The duration of time for the AD server to respond to the authentication request, after which the request timeouts and Succendo resends the request

Authentication Method: Select from NTLM, NTLMv2 or LDAP:

If LDAP is selected, the account and login account downloaded from the AD server is the AD user's *display name*; if NTLM or NTLMv2 is selected, then what is downloaded is the AD user's *account*

Auto Synchronization: Check to enable automatic synchronization of selected group and user information from the remote AD server onto the Succendo server when the AD server is modified. (once per hour)

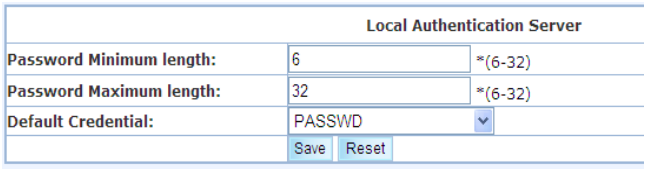
Default Permit Access: Check to enable the authentication of user logins for users not yet added into the Succendo server. If checked, Succendo will send the login entries to the AD server for authentication. Upon successful authentication, the user will be automatically added into the Succendo server.

If unchecked, the user's login will fail even if his username and password are correct

Description: Brief description of the server (max. 128 characters)

Click <Save> to add the server once all parameters are specified.

6.1.4 Configuring Local Server



Password Minimum length: Minimum number of characters for the password

Password Maximum length: Maximum number of characters for the password

Default Credential: Select the default authentication method from the drop down menu

6.2 Managing existing authentication server

6.2.1 Editing the Servers' parameters

There are two ways to view and edit an existing server.

- Click the icon corresponding to the server name you want to edit. The icon is found under the "Edit" column of the server list.
- Directly click the server name.

Using either method brings up the server information configuration window. After editing the information, click <Save> to save the modification, or <Reset> to undo the changes.

Tips: *You can also retrieve the user account information (without password information) from the authenticating server by clicking the* ***<****Download user****>*** *button (Note that this option is only available for LDAP and Windows AD server).*

6.2.2 Downloading User Information

From the server edit interface, click <Download user> to download user and user group information (not including user passwords) from the selected server. (This function is only available for LDAP and AD servers).

A tree structure user interface will be displayed. From the tree, select the users and user groups to download. Click <Save> to begin the download or <Reset> to undo the selections.

In the LDAP/AD server user tree displayed, organization units, container and user groups that were downloaded previously will be shown as selected. When you re-select the users from the tree, the following will be performed:

- Users in previously selected organization units and containers that are not selected currently will be deleted
- Previously selected groups that are not selected currently will be deleted

The selected nodes will be downloaded into Succendo.

- All users in the selected organization units and containers will be added into Succendo with organization units and containers added as user groups. The group name will be "ou_authentication" server name_ou(container) name. For example, if the authentication server is "testserver", ou name is "testou" then the group name on Succendo will be "ou_testserver_testou". If the organization unit contains other organization units, containers or groups, the users under these groups will also be added into Succendo accordingly
- Selected groups will be added directly into Succendo along with all the user members in the group. If the group name is "testgroup" and the server name is "testserver", then the group name added into Succendo will be "testserver_testgroup"

Note: *When downloading containers that contain groups into Succendo, the relationship between the users and the groups may not be correctly added into Succendo. This is not a system error and simply involves the details of the AD container concept realization. Exporting the AD content's LDIF file will show the same result. This error is only present for the AD container.*

Succendo supports the "NTLM", "NTLMv2" and "LDAP" protocols on AD servers. When using the LDAP protocol for the AD server, the downloaded account name is the user's display name on the AD server. When using the NTLM or NTLMv2 protocols, the downloaded account name is the user account name on the AD server.

LDAP users can use either their common name (CN) or UID when being authenticated by the system. Note that regardless of which attribute is used to login to the system, the user is assigned with the same authorizations. When the account is downloaded onto Succendo, the username is stored according to the user's CN.

6.2.3 Synchronizing User Accounts

From the server edit interface, click <Sync Accounts> to manually begin the synchronization of Succendo and the remote authentication server. **Note**: This function is only available for LDAP and AD servers.

Synchronization of selected organization units, containers, groups and users between the two servers includes:

- Renaming of the authentication server configured in Succendo (Groups from the authentication server will also be renamed).

- Deletion, moving and renaming of containers and organization units.
- Deletion, moving and renaming of groups (DN value will also be modified).
- Creation, deletion, moving (if the user was added to or removed from a group) and renaming of users (DN value will also be modified).

6.2.4 Deleting an existing server

To delete a server, click the icon corresponding to the server name you want to delete. The icon is found under the “Delete” column of the server list. A confirmation dialog box will pop up to confirm your deletion.

You can also select multiple servers by clicking the check box next to them, and click <Remove> to delete them en masse. Note: you must first remove the users and user groups assigned to the authentication server before you can delete the server.

Chapter

7

User Management

Management of the end-users accessing the VPN through Succendo is achieved in two levels: managing them as a user group or as individual users. Succendo supports a role-based access control model for managing users' and user groups' rights to access the system resources. Roles define the services which the users or user groups has access to. For details on how to add and manage roles, see ***Chapter 9***. An illustration of the m-m (many to many) relationship between roles, users and services can be found in ***Chapter 1, Section 1.2***.

Each user group is made up of one or more users and each user can belong to multiple user groups.

7.1 Managing User Groups

You can create User groups to group users with identical roles and functions together. This eliminates the need to manage users individually when it comes to assigning roles and rights, deleting users en masse, etc.

Select "**User >> Group**" to view the User Group List shown below:

A user group can have multiple roles and policies assigned to it. Drop down boxes are available in the user group list to view the list of roles or policies for a user group.

You can make use of the <Query> button to search for a specific group or groups based on group name. Simply type the name into the **Name** text box and click <Query>. The system will list user groups with names that match or partially match the name field here. Querying with a blank name field will yield the entire list of user groups.

Clicking the <All> button will select all the names in the current page of the list (if the list spans more than one page). Clicking <Reverse> will unselect the selected names while selecting the unselected.

7.1.1 Creating a new user group

Click <Add> to create a new user group and the New User Group page will appear.

The **Name** field is mandatory while the rest are optional (with the exception of the **Superior Group** field, which will have a default value). The description of the fields is as follows:

Name:	User Group name
Superior Group:	This is the parent group to which the user group belongs. The user group will inherit role information from the superior group.
User Information:	Select the existing users (created with the "**User Accounts**" option, see ***Section 7.2***) to be placed in this group.
Role Information:	Select the existing roles (created with the Role option, see ***Chapter 9***) to be assigned to this group
Client Secure Policy Information:	Select the client secure policies (created in the Client Policy option, see ***Chapter 12***) for this group
Access Restriction List Information:	Select the ARL (create with the ARL option, see ***Chapter 13***) for this group
Description:	Brief description of the group (max. 128 characters)

The values for the fields **User Information**, **Role Information**, **Client Secure Policy Information** and **Access Restriction List Information** are selected by the following steps:

i. Select the item from the respective "Unselected …" list box. You can selected multiple items from the list box

ii. Click the button and the selected items will be placed in the corresponding "Selected …" list box.

iii. To remove the items from the "Selected …" list box, select the items to be removed, and click the << button

Alternatively double-click an item to move it from one list to the other. Once you are satisfied with your options, click <Save> to save the group.

7.1.2 Edit existing user group

There are two ways to view and edit an existing user group.

- Click the icon corresponding to the group name you want to edit. The icon is found under the "Edit" column of the group list.
- Directly click the user group name.

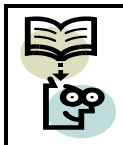
Using either method will bring up the group information configuration window, identical to the Add New User Group interface, except that the fields are populated.

After editing the information, click <Save> to save the modification, or <Reset> to undo the changes.

7.1.3 Delete existing user group

To delete an account, click the icon corresponding to the group name you want to delete. The icon is found under the "Delete" column of the group list. As usual, a confirmation dialog box will pop up to confirm your deletion.

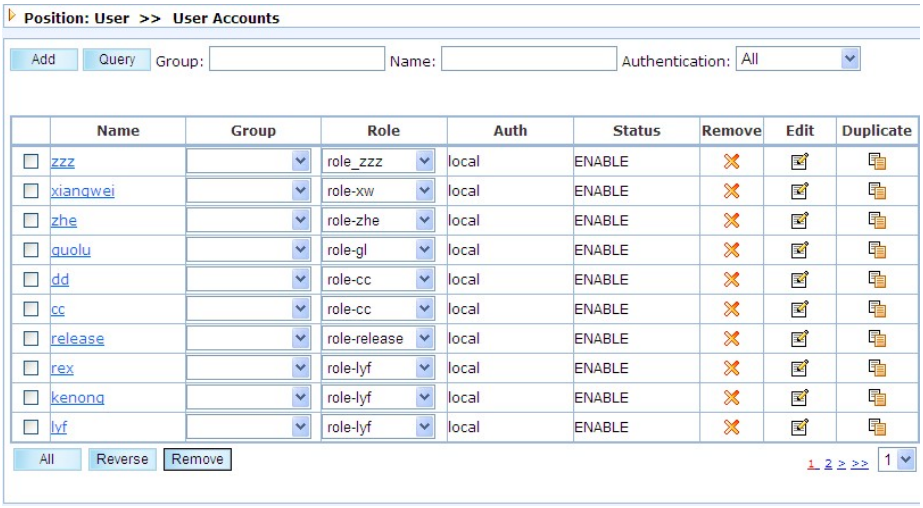
You can also select multiple groups by clicking the check box next to them, and click <Remove> to delete them en masse.



Note: *You will not be able to delete a user group if there are users assigned to the group. You will need to remove all the users from the group before deleting it.*

7.2 Managing Users

Select "**User >> User Accounts**" to view the User List shown below:



A user can belong to multiple groups and have multiple roles assigned to it. Drop down boxes are available in the user list to view the list of groups or roles for a user.

The **Auth** column refers to the name of the authentication server used to authenticate the user.

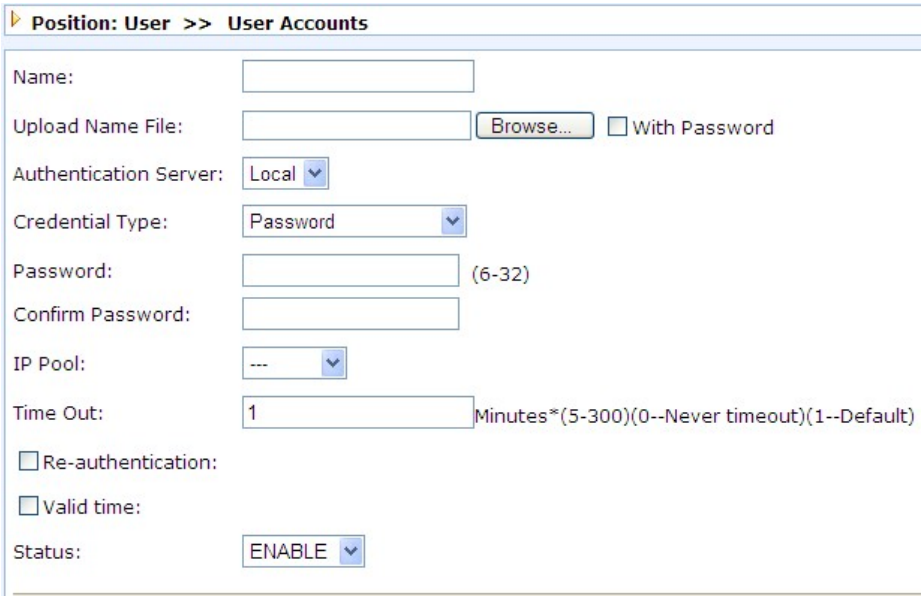
Clicking the <All> button will select all the names in the current page of the list (if the list spans more than one page). Clicking <Reverse> will unselect the selected names while selecting the unselected.

There are four types of users – local password users, local certificate users, local password+certificate users and authentication server users.

To begin adding a new user, click the <Add> button to access the Add User Page. You can add a **local** user (which can be a **Password,** a **Certificate** or a **Password+Certificate** user) and a **non-local** user.

7.2.1 Adding a local user

To add a local password user, select “Local” for the **Authentication Server** field (this is also the default value when you first access this page), and then select “Password” (again, this is the default value) for the **Credential Type** field.



Name: User name

Upload Name File: Click <Browse…> and select the text file containing the list of user names to upload. If **With Password** is selected, the file should contain both user names and the corresponding password in the following format: Username password

If **With Password** is not selected, the file should only contain user names. The uploaded users will be assigned the password specified in the **Password** field below.

Note that each entry in the file should begin on a new line. This option is only available for local password users.

Authentication Server: Select Local for local users

Credential Type: Select “Password” for password users

Password: User password

Confirm Password: Retype the user password for confirmation

IP Pool: IP Pool from which the user is to be assigned an IP for NC access. Please refer to ***Chapter***

14, Section 14.1 for information on adding IP Pools

Timeout: The duration of inactivity before Succendo automatically disconnects the user

Re-authentication: Check to enable and specify the time interval (minutes). When the user's log in time exceeds this specified interval, Succendo will require the user to be re-authenticated

Note: Succendo will prompt the user to re-authenticate themselves 3 minutes before the specified time. The user will be kicked out of the system if he fails to enter his password correctly for 3 consecutive times

Valid Time: Time period after which this user account will be automatically disabled. Select the time period by using the date picker icon in the **From** and **To** boxes

Status: Enabled, Disabled or Locked

To add a **local certificate** user, select "Local" for the **Authentication Server** field, and then select "Certificate" for the **Credential Type** field. An additional **Certificate** field will appear where you can browse for a certificate to upload. Select **zip packet** next to the **certificate** field to upload multiple certificates within a zip file. Complete the other fields as above.

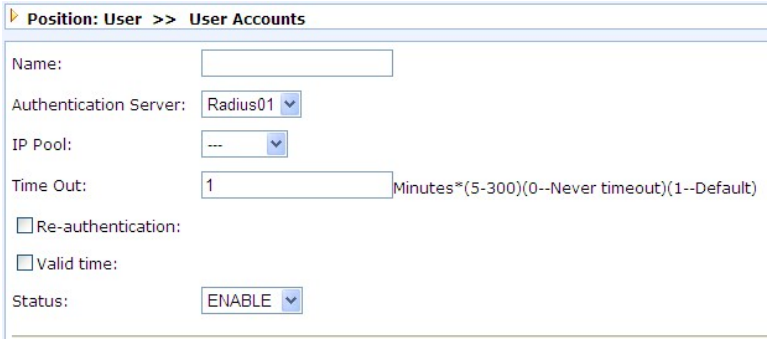
To add a local password+certificate user, select "Local" for **Authentication Server** and "Password+certificate" for **Credential Type**. Succendo will authenticate the user based on both the user password and the certificate.

Note: ***Credential Type*** *field is related to role management. For example, if the credential type of roleA is certificate, then a password user cannot access the services in this role even if he was assigned roleA. Please refer to* ***chapter 9*** *on role management.*

Click <Save> to save the new user or <Reset> to clear the field textboxes.

7.2.2 Adding a non-local user

To add a user that is verified by an external authentication server, select an authentication server for the **Authentication Server** field. The servers available for selection are the ones you have already defined. See *Chapter 6* for details on how to setup authentication servers.



Once you selected an authentication server, simply fill in the various fields as shown in the diagram to the left. The configuration of each field is similar to ***Section 7.2.1*** above.

The rest of the fields to fill in after determining the type of user, are:

Group Information: Select which existing group the user will belong to

Role Information: Select the existing roles (created with the Role option, see ***Chapter 9***) to be assigned to this user

Client Secure Policy Information: Select the client secure policies (created in the Client Policy option, see ***Chapter 12***) for this user. All selected policies are related by a "or" relation by default. This means that as long as 1 policy is fulfilled, the user check is satisfied.

You can add or remove "and" relations by clicking the [add-] or [del--] buttons respectively. Select the policy name from the list and click [add-] to add an "and" relation below this policy. Click the "----" relation line and [del--] to remove the relation. All policies enclosed within the ------ line are related by the default "or" relation.

Example:

McAfee 8.0.0

Norton Anti Virus

	Windows auto update This indicates that the user end must have windows auto update and either McAfee 8.0.0 or Norton Anti Virus running on his computer to satisfy the policy check.
Access Restriction List Information:	Select the ARL (create with the ARL option, see ***Chapter 13***) for this user
Description:	Brief description of the user (max. 128 characters)

The values for the fields **User Information**, **Role Information**, **Client Secure Policy Information** and **Access Restriction List Information** are selected through the following steps:

i. Select the item from the respective "Unselected …" list box. You can selected multiple items from the list box

ii. Click the button and the selected items will be placed in the corresponding "Selected …" list box.

iii. To remove the items from the "Selected …" list box, select the items to be deleted and click the button

Alternatively, double-click an item to move it from one list to the other. Once you are satisfied with your options, click <Save> to save the user.

7.2.3 Edit existing user

There are two ways to view and edit an existing user.

- Click the icon corresponding to the user name you want to edit. The icon is found under the "Edit" column of the user list.
- Directly click the user name.

Using either method will bring up the user information window, identical to the Add New User interface, except that the fields are populated, and the fields **Authentication Server** and **Credential Type** are disabled.

After performing the necessary editing, click <Save> to save the modification, or <Reset> to undo the changes.

7.2.4 Duplicate existing user

To duplicate a user, click the button corresponding to the user name you want to duplicate. The duplicated user will have the same name as the user name being duplicated, but prefixed with the word “Copy # of”, where # is the number of copies currently existing. For example, duplicating the user name “Ricky” once would yield a new user named “Copy 0 of Ricky”. Note that all duplicated users’ status begins with “Disabled” - you will need to enable it manually if you want it to be active.

The icon is found under the “Duplicate” column of the user list.

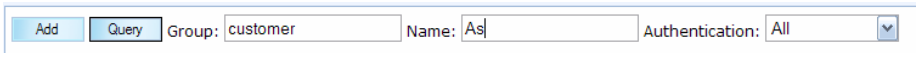
7.2.5 Delete existing user

To delete a user, click the icon corresponding to the user name you want to delete. The icon is found under the “Delete” column of the user list. As usual, a confirmation dialog box will pop up to confirm your deletion.

You can also select multiple users by clicking the check box next to them, and click <Remove> to delete them en masse.

7.2.6 Querying for existing users

You can narrow down the user list to view users from specific groups, user name or those verified by specific authentication servers. This is done by entering the full or partial group name or user name into the text boxes, and/or selecting the server name from the drop down box as shown in the diagram below:



Any combination of criteria can be formed, as long as you have at least one query criteria. Click <Query> to generate the search results.

7.3 Managing Locked Users

Users can be locked for two reasons: by administrators (by manually changing the **Status** field of the user), or by the system (after user exceeds the maximum number of unsuccessful login attempts or violates certain security policies). To view the locked users, select "**Users >> Locked User**" and the list will be displayed as follows:

Name shows the locked user's account name.

Authentication Server shows the name of the authentication server that authenticates the user.

Lock Time shows the date and time of the user's last unsuccessful login attempt before being locked out, or the date and time the administrator changed the user's status to LOCKED.

Lock Information shows the IP address where the user was attempting to login from. If the user was locked manually by the administrator, then the column shows the name of the administrator who locked the user.

7.3.1 Unlocking the users

To unlock one or more users, first select them by clicking the check box besides the user name, and then click the <Unlock> button. The list will be refreshed and will display the remaining locked users.

Note that users locked by the system will be automatically unlocked when their locked period expires. The locked period for all users is set in the Security settings. (See ***Chapter 3, Section 3.3*** for details)

7.3.2 Querying for locked users

You can narrow down the locked user list to view users from specific groups, user name or those verified by specific authentication servers. This is done by entering the full or partial group name or user name into the text boxes, and/or selecting the server name from the drop down box, which is similar to how you would query for existing users. Click <Query> to generate the search results.

Chapter

8

Service Management

Accesses to services in Succendo are entirely determined by roles. Users, or users in a user group, must have the correct role or roles assigned to them before they can access the services. You can setup the kind of service a specific role can access (see ***Chapter 9***), or the kind of role or roles that can access the service, right here in Service Management. An illustration of the m-m (many-to-many) relationship between roles, users and services can be found in ***Chapter 1, Section 1.2***.

8.1 Adding a new service

Select "**Service >> Service List**" from the Menu Bar to access the Service List (refer to **Section 8.2** for details), click <Add> to add a new service. The Add new Service interface will be displayed. Complete the fields as described below:

Name: Service name

Application Server: The application server where the service is found. This is either an IP address, a name, name@IP, IP1-IP2, IP/netmask or any

Access Method: Select whether the service is accessible via proxy or NC. Please refer to **Chapter 14** for details on providing NC services.

Service Type: The service type, including vnc, ftp, Exchange etc.

Group: Select the group the service type belongs to. The services displayed at the client end will be categorized according to this group.

Protocol: Select the type of protocol used to access the service. You will also need to enter the port number in the text box available. Click <Add> to add that port information to the service. You can then continue to add more ports into the service information, or remove them by clicking <Remove>. The various options in the drop down menu are:

- **TCP** – Service supports the TCP protocol. Enter the corresponding port number
- **UDP** – Service supports the UDP protocol. Enter the corresponding port number
- **ICMP** – Service supports the ICMP protocol. Enter the corresponding port number
- **Any** – Service supports any protocol working on the IP layer or above. No port number is necessary for this option.
- **Protocol** – Enter the protocol number of the protocol, working on the IP layer or above, to be supported. Some examples are:

  1-Internet Control Message Protocol (ICMP)

  2-Internet Group Management Protocol (IGMP)

  3-Gateway to Gateway Protocol (GGP)

  4-IP in IP

  6-Transmission Control Protocol (TCP)

  8-Exterior Gateway Protocol (EGP)

  17-User Datagram Protocol (UDP)

  35-Inter-Domain Policy Routing Protocol (IDPR)

  45-Inter-Domain Routing Protocol (IDRP)

  46-Resource Reservation Protocol (RSVP)

  47-Generic Routing Encapsulation (GRE)

  54-NBMA Next Hop Resolution Protocol (NHRP)

  88-Cisco Internet Gateway Routing Protocol (IGRP)

  89-Open Shortest Path First (OSPF)

Display to end user: Decide whether end user will see this service displayed in their page or not

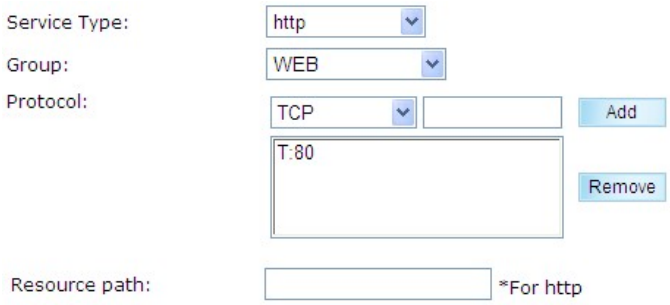
Client Application: Client Applications that the service will launch. Select one or more applications from the "Unselected …" list box to the "Selected …" list box. See later section for more details on adding new Client Applications

Role Information: Select the existing roles (created with the Role option, see ***Chapter 9***) that can access this service

Description: Brief description of the service(max. 128 characters)

8.1.1 HTTP service type

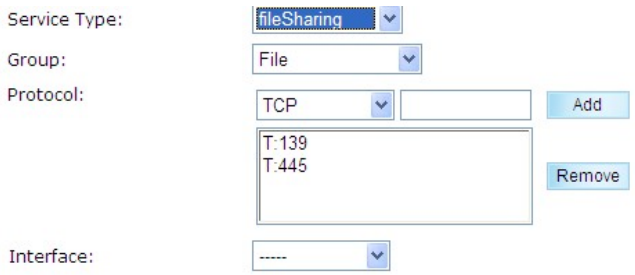
If you select HTTP for service type, an additional parameter **Resource Path** will have to be defined.



Enter the full path of the application you want this service to specifically point to. For example: "\succendo".

8.1.2 File-Sharing service type

If you select “FileSharing” for service type, an additional parameter **Interface** will have to be defined.

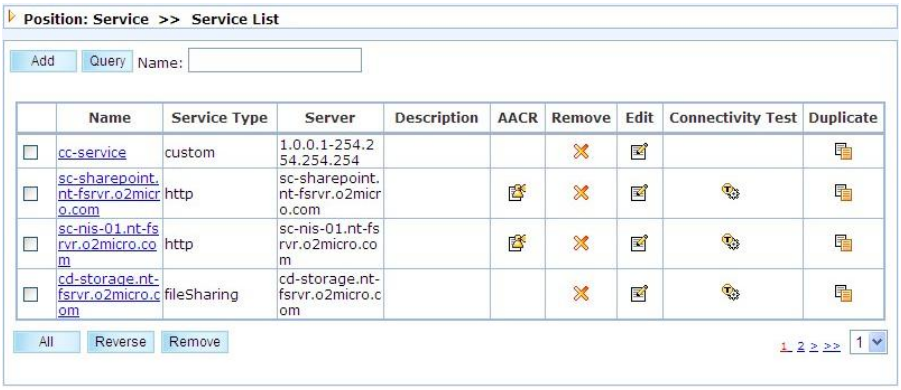


Select the **interface** for which this service is to be provided.

Once you are satisfied with your options, click <Save> to save the service. Your new service should appear in the Service List.

8.2 Service List

When you select “**Service >> Service List**”, the list of services will be displayed:



As usual, clicking the <All> button will select all the services in the current page of the list (if the list spans more than one page). Clicking <Reverse> will unselect the selected services while select the unselected.

The following sections describe the various operations you can perform on the services.

8.2.1 Editing and deleting existing service

You can edit existing service by clicking the Service name, which is a hyperlink, or click the icon corresponding to the service name. The editing screen will be displayed, and it is identical to the Add new service screen except that the fields are populated.

To delete a service, click the icon found under the "Remove" column, corresponding to the service you want to delete. As usual, a confirmation dialog box will pop up to confirm your deletion.

8.2.2 Testing Connectivity of a service

To test the connectivity of a service, click the icon found under the "Connectivity Test" column, corresponding to the service you want to test. If the connectivity is successful, a success screen will be displayed – just click <Return> to return to the Service List.

However if the connectivity test fails, you will see the failure screen informing you that the test has failed, and the reason why. Just click <Return> to return to the Service list.

Note: *The connectivity test cannot be performed for UDP services, IP range services and port range services.*

8.2.3 Duplicate a service

To duplicate a service, click the icon found under the "Duplicate" column, corresponding to the service you want to duplicate. A copy of the service will be inserted into the Service List with the name "copy <#><service name>" (first copy is "copy 0") as shown in the example below:

☐	HR Service	oracle	211.23.55.100
☐	copy 0 HR Service	oracle	211.23.55.100
☐	copy 1 HR Service	oracle	211.23.55.100

8.2.4 Application Access Control Rule (AACR)

The AACR (Application Access Control Rule) are rules applicable to service commands, determining whether they can be performed or not. For example if the AACR for the FTP command DELE is “Deny”, then the user assigned with this AACR will not be allowed to delete any files while performing FTP.

Note that the adding of AACR here can have an effect on the **AACR Default Action** configured in “**System>>Security**” (***Chapter 3, Section 3.3***). The AACR default action determines the nature of a service’s commands in the event where AACR are defined for none or some of them.

So if there is no AACR defined for a service at all, all its commands are defaulted to “Permitted”, regardless of what is defined in the **AACR Default Action**. But if some of the commands in a service are assigned AACR, then those without an AACR will follow what is set in **AACR Default Action**.

To begin defining the Application Access Control Rule for a service, click the icon found under the “AACR” column, and you will see the service’s AACR list, as shown in the example below:

Clicking the <All> button will select all the names in the current page of the list (if the list spans more than one page). Clicking <Reverse> will unselect the selected names while select the unselected.

To edit or delete an existing rule, click the Rule Name or the icon respectively. To duplicate a rule, click the icon. The duplicated rule will be created with the original name prefixed with a “Copy of”.

To add a new rule, click <Add>. After the interface for adding a new rule is displayed, complete the fields as described:

Name: AACR name

Command: If the service type is HTTP, the commands you can select are either GET or POST.

However, if the service type is FTP, then the available commands are: CDUP, CWD, DELE, LIST, MKD, NLST, PASV, PORT, RETR, RMD, RNFR, RNTO, SMNT, STOR, and STOU.

Parameter: The path of the object in the server that the command is applied to

Action: Select Deny or Permit

Role Information: Select the Roles that are affected by this rule

Description: Brief description of the service (max. 128 characters)

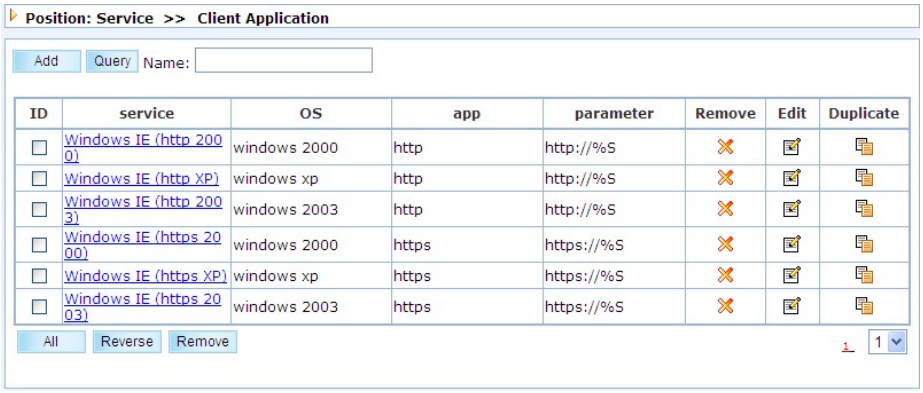
Once you are satisfied with your options, click <Save> to save the rule. Your new rule should appear in the AACR List.

Note: *Commands that are not assigned with an AACR will follow what is set in the AACR Default Action in the Security Settings (refer to **Chapter 3, section 3.3**)*

8.3 Client Applications

When defining a service there is an option to add client applications to it, so that when the user accesses the service, they effectively launch the application. An example would be a file exchange service where a FTP client software is launched when the user select the service.

To create a pool of client applications, you need to first access the Client Application List. Select "**Service >> Client Application**" to view the list:



8.3.1 Editing, Deleting and Duplicating existing applications

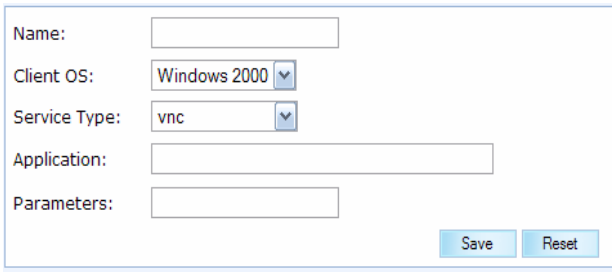
- To edit an application, click the application, which is a hyperlink, or click the icon corresponding to the application name. You will open a screen identical to the Adding a new application interface, except that the fields are populated.
- To delete an existing client application, click the icon. You can also select multiple applications (selecting the check boxes besides the names) and then click <Delete> to delete en masse.
- To duplicate an item, click the icon under the "Duplicate" column corresponding to the name of the application you want to duplicate. The duplicated item will be created with the original name prefixed with a "Copy of"

8.3.2 Query for specific applications

You can also query for specific client applications based on the application name. Just enter the name (or part of a name) and to the Name text box (as shown in the diagram) and click <Query> to generate a new list.

8.3.3 Adding a new client application

To add a new client application, click <Add>. The interface for adding a new application will be displayed as shown below:



Name: Application name

Client OS: The Operating System where the application resides

Service Type: Select type of application (vnc, ftp, http, etc)

Application: Enter the full path of the application executable.

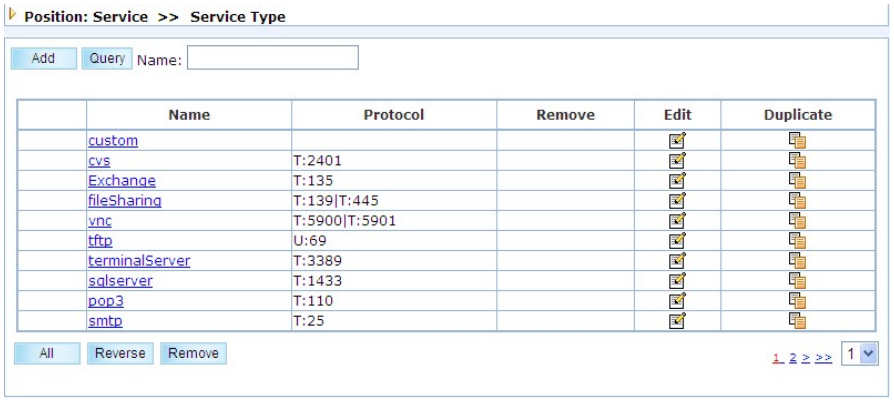
Example: *C:\Program Files\ftp\ftp.exe*

Parameters: Any parameter required by the application. Example:

ftp://%s where %s points to the IP address of the FTP server to connect to

8.4 Service Type

Here, you can configure the necessary service types used to categorize the services displayed on the client's interface.



You can only select service types that were defined by administrators. System pre-defined types are not selectable.

8.4.1 Adding a new service type

To add a new service type, click <Add>.

Name: Service type name

Ports: Select the service port type from the drop down menu and enter the corresponding port number. Click <Add> to add the port number to the list in the box below. Select a port and click <Remove> to delete it from the list

Group: Select the group this service type will belong to

8.4.2 Editing, Deleting and Duplicating existing service types

To **edit** a service type, click the type, which is a hyperlink, or click the icon corresponding to the type. You will open a screen identical to the Adding a new service type interface, except that the fields are populated.

To **delete** an existing service type, click the icon corresponding to the type. You can also select multiple applications (selecting the check boxes besides the names) and then click <Remove> to delete en masse. **Note:** Pre-defined service types in the system cannot be deleted.

To **duplicate** an item, click the icon under the "Duplicate" column corresponding to the name of the service type you want to duplicate. The duplicated item will be created with the original name prefixed with a "Copy of"

8.4.3 Querying for specific service types

You can also query for specific service types based on the type name. Enter the full name in the Name text box and click <Query> to generate the search list. Note that this query will not return partial matches.

8.5 IP Host

In order to allow the convenient recognition of the various application servers, you can add the mapping between IP addresses and host names in this interface.

From the bottom of the list, there are two ways to add new IP hosts as detailed below.

1. Type in the **IP address** and **hostname** and click <Add>.
2. Create a txt file on the local machine with IP addresses and hostnames mapped accordingly in the file. Click <Browse…> and select the file. Click <Import> to import the file into the system

8.5.1 Removing a IP Host

From the **Remove** column in the list, click the icon to remove the corresponding IP host mapping. You can also select multiple IP host mappings (selecting the check boxes beside **IP Address**) and click <Remove> to delete en masse.

8.5.2 Querying for specific IP Hosts

You can also query for specific IP Hosts based on the host name. Enter the full name in the Name text box and click <Query> to generate the search list.

Chapter

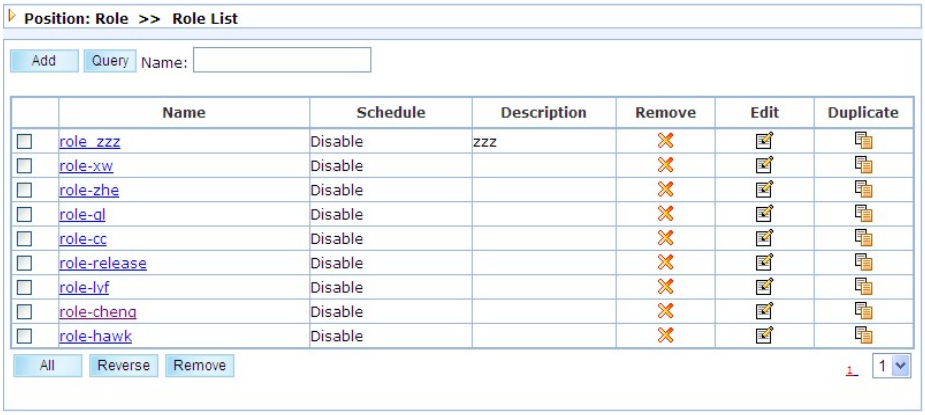
9

Role Management

Succendo supports a role-based access control model for defining users' and user groups' rights in accessing the system's services. Each user or user group can have multiple roles assigned to it, while each role can also be assigned to multiple users or user groups.

An illustration of the m-m relationship between roles, users and services can be found in ***Chapter 1, Section 1.2***.

Select "**Role >> Role List**" from the Menu Bar to view the list of existing Roles.



Querying for specific roles

You can also query for specific roles based on the role name. Enter the full name in the Name text box and click <Query> to generate the search list. Note that this query will not return partial matches.

9.1 Adding a new role

To add a new role, click the <Add> button and the Add New Role interface will be displayed. Complete the fields as described below:

Name:	Role name
Description:	Brief description of the role (no more than 255 characters)
Credential Type:	Select the credential type for the role. This will affect the service access authorization of users belonging to this role. For example, If the credential type of roleA is "certificate", then password userB cannot access the services in this role even if userB belongs to roleA.
Block Internet:	Check to prohibit the user's access to the Internet when connected to the Intranet over Succendo
Schedule:	Enable the role to utilize the schedule feature. **Note** that the schedule will be based on the server's time zone and time setting *(*see ***Chapter 3, Section 3.10*** on how to set time zone and time*)*. Therefore changing the time zone and time setting will have an impact on the schedule defined here.
Service Information:	Select the services accessible by this role (by picking the items from the "Unselected …" list box and put them in the "Selected …" list box with the button. You can also just double click the item to move it from one list box to the other.)
AACR Information:	Select the AACR accessible by this role (by picking the items from the "Unselected …" list box and put them in the "Selected …" list box with the button. You can also just double click the item to move it from one list box to the other.)
Group Information:	Select the user groups that will be assigned with this role
User Information:	Select the users that will be assigned with this role

Click <Save> to save the information, or <Reset> to undo the changes.

Chapter

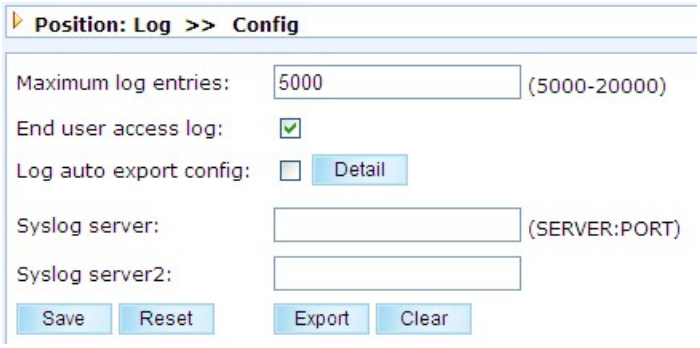
10

Log Management

All administrators' and users' activities can be logged for auditing purpose, as well as for monitoring system resources and troubleshooting abnormalities. The details of the log will be described in the section "Querying for logs" in this chapter. But first, there are some log options you will want to configure.

10.1 Configuring Log options

Select "**Log >> Configure**" at the Menu Bar to access the Log option screen shown below:



Maximum log entries: Maximum number of log entries you want to be recorded into the Succendo flash disk (you can define an integer from 5000 to 20000)

End user access log: Select to record information on users' access to services

Log auto export config: Select to enable the auto export of log files. Click <Detail> to configure the various associated parameters. Please refer to **Section 10.1.1** below for details.

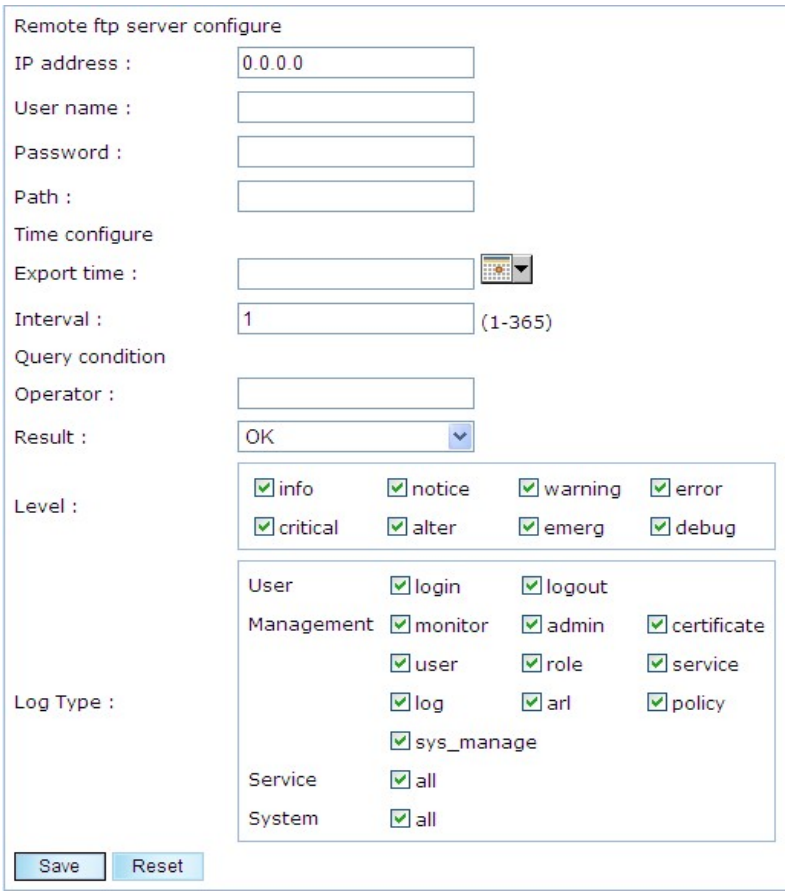
Syslog server: IP address of the first Syslog server, where the logs will be kept

Syslog server2: IP address of the second Syslog server

Click <Save> to save the current settings or <Reset> to reset the parameters to the system default values (No Syslog server, maximum log entries set at 5000). You can also export the current logs into a locally stored file by clicking <Export>. To clear the current logs, click <Clear>.

10.1.1 Automatic Export of Logs

Click <Detail> on the interface to configure the various parameters such as the location to export the logs to, the type of logs to export and auto export schedule. The interface is shown below:



Remote ftp server configure

IP address: IP address of the remote FTP server to export the file to

User name: Login user name for the FTP server

Password: Corresponding login password

Path: Directory and/or filename to store the file to

Time Configure

Export Time: Specify the time and date to begin the automatic export by using the date picker icon.

Interval: Specify the interval between each export (days)

Query Condition

Operator: Specify the user whose log records are to be exported during this scheduled automatic export.

Result: Specify whether to export log records of failed ("Fail"), successful ("OK") activities or both

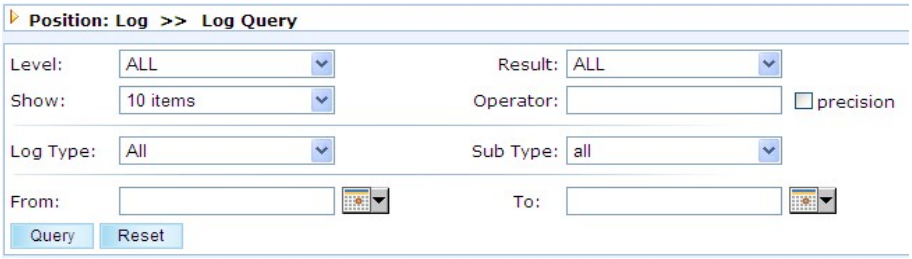
Level: Select the levels of the logs to be exported

Log Type: Select the type of logs to be exported

Click <Save> to save the configuration.

10.2 Query for logs

To search and view logs recorded, select "**Log >> Log Query**" at the Menu Bar. The Log Query interface will be displayed as shown below:



There are 7 criteria you can set to narrow your log search. These are:

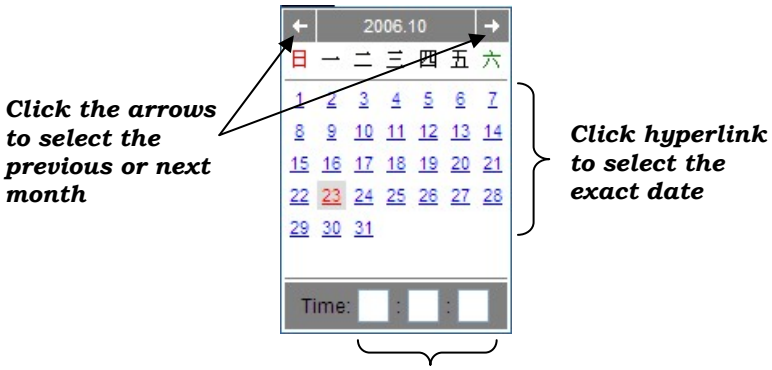
Level: The level of severity of the logs you want, ranging from Warning to Critical. See the section "Log Levels" below for more details

Result: To include logs that indicates a "OK" (successful operation), "Fail" (failed operation) or both

Show: Select the number of log items to display (10-200)

Operator: Username of the user whom you would like to search his or her activities recorded. Select **precision** to avoid returning partial name matches in the query results

Time Range (From) and (to): The range of the Date and Time of logs you want to include in your query. You can either type the information into the text boxes provided (in **YYYY-MM-DD HH:MM:SS** format**)**, or use the Date Picker button ( ) to select a date and enter the time, as shown below:

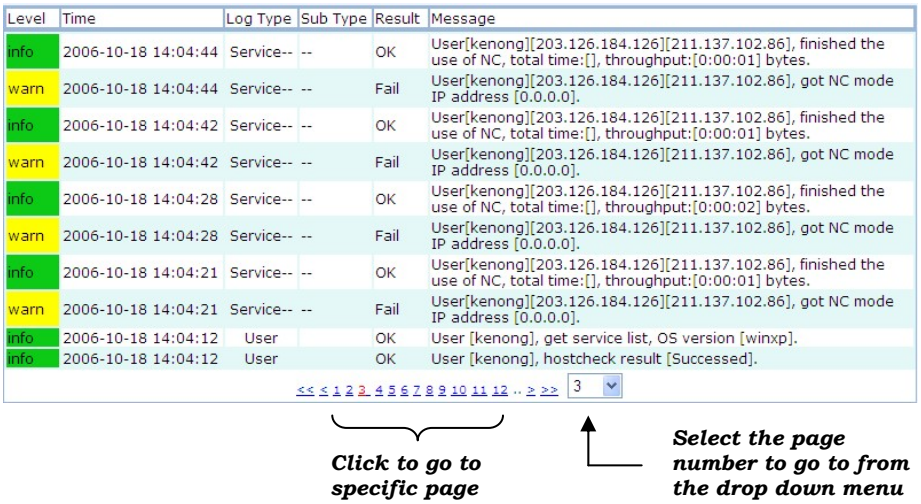

2006.10
日 一 二 三 四 五 六
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 31
Time:
Click the arrows to select the previous or next month
Click hyperlink to select the exact date
Enter the time in hh:mm:ss format

Log Type: The type of logs you want to include in your query. This can be one of the four types available. See the following section “Log Types” for details

Sub Type: Depending on the Log type selected, this field will be populated accordingly. See the following section “Log Types” for details on sub type

Note: *You must enter the time before setting the date in the Date Picker*

You can click <Reset> to clear your selection anytime. Once you have decided on your criteria and entered the respective values, click <Query> to begin the search, and the log list will be displayed as shown in an example query below:



Level	Time	Log Type	Sub Type	Result	Message
info	2006-10-18 14:04:44	Service--	--	OK	User[kenong][203.126.184.126][211.137.102.86], finished the use of NC, total time:[], throughput:[0:00:01] bytes.
warn	2006-10-18 14:04:44	Service--	--	Fail	User[kenong][203.126.184.126][211.137.102.86], got NC mode IP address [0.0.0.0].
info	2006-10-18 14:04:42	Service--	--	OK	User[kenong][203.126.184.126][211.137.102.86], finished the use of NC, total time:[], throughput:[0:00:01] bytes.
warn	2006-10-18 14:04:42	Service--	--	Fail	User[kenong][203.126.184.126][211.137.102.86], got NC mode IP address [0.0.0.0].
info	2006-10-18 14:04:28	Service--	--	OK	User[kenong][203.126.184.126][211.137.102.86], finished the use of NC, total time:[], throughput:[0:00:02] bytes.
warn	2006-10-18 14:04:28	Service--	--	Fail	User[kenong][203.126.184.126][211.137.102.86], got NC mode IP address [0.0.0.0].
info	2006-10-18 14:04:21	Service--	--	OK	User[kenong][203.126.184.126][211.137.102.86], finished the use of NC, total time:[], throughput:[0:00:01] bytes.
warn	2006-10-18 14:04:21	Service--	--	Fail	User[kenong][203.126.184.126][211.137.102.86], got NC mode IP address [0.0.0.0].
info	2006-10-18 14:04:12	User		OK	User [kenong], get service list, OS version [winxp].
info	2006-10-18 14:04:12	User		OK	User [kenong], hostcheck result [Successed].

<< < 1 2 3 4 5 6 7 8 9 10 11 12 .. > >> 3

Click to go to specific page

Select the page number to go to from the drop down menu

Using the default values of the criteria will yield the entire list of logs.

10.2.1 Log Levels

There are 8 types of log level:

EMERG: Emergency, system is unstable and requires immediate attention from the administrator

ALERT: Requires immediate attention and action from the administrator

CRIT: Critical conditions. Requires immediate attention and action from the administrator

ERR: An erroneous event occurred

WARNING: Usually refers to conditions that require attention before it deteriorates into critical

NOTICE: Normal but significant conditions

HA: Records HA activities such as automatic synchronization

INFO: Informational messages

DEBUG: Detailed debug information that is useful for the technical support to analyze the logs in the event of a system failure

10.2.2 Log Type

The table below shows the Log types and their corresponding sub-type, if any:

Log Type	Sub Type	Remarks
Management (MGT)	User management	These are activities related to various management functions carried out by the Administrators. Every time such functions are selected and operated, the system will record them into the logs.
	Administrator management	
	Certificate management	
	Service management	
	Role management	
	Log management	
	System monitoring	
	System management	
	Client policy	
	ARL management	
User	Logout	These are activities related to miscellaneous functions initiated by the end users. Note that this activities will only be logged if the **End user access log** option is toggled (see ***Section 10.1***)
	Login	
System	-	System initiated or related activities
Service	-	Service initiated or related activities
HA	-	HA initiated or related activities

Chapter

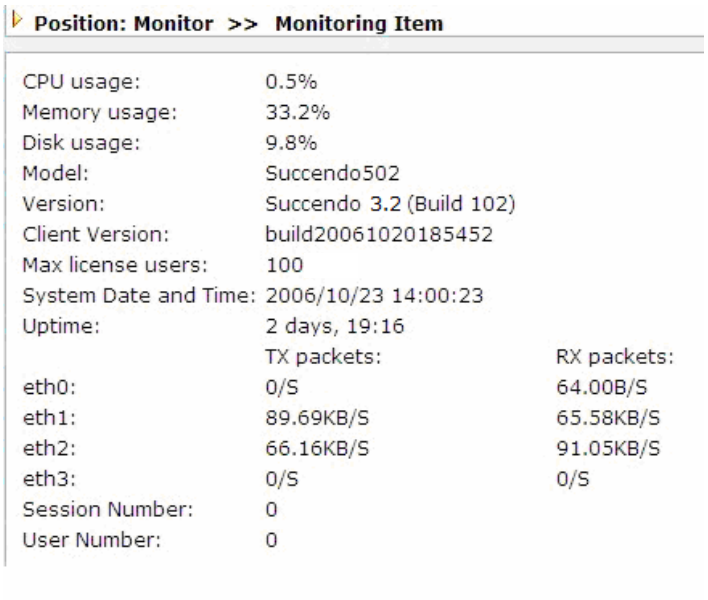
11

System Monitoring and Control

Succendo provides tools to help you monitor the system's resources and other aspect of system usage. This chapter will describe and explain the various charts and information.

11.1 Monitor >> Monitoring Item

This is a general information page, a quick summary of system usage, number of users, session, etc. Select "**Monitor >> Monitoring Item**" to view this information page:



CPU usage: The CPU's current activity and usage, represented by a percentage

Memory usage: The percentage of Random Access Memory (RAM) currently used by the system

Disk usage: The percentage of hard disk space currently used by the system

Model:	Model number of the Succendo device
Version:	Current build of Succendo
Client Version:	Version of the client end component and ActiveX
Max license users:	Maximum number of users as granted by the current license
System Date and Time:	Current system data and time
Uptime:	How long Succendo has been up
eth0, eth1, … ethN:	TX and RX packets speed of Ethernet ports
Session Number:	Number of sessions spawned at the moment
User Number:	Current number of end-users online

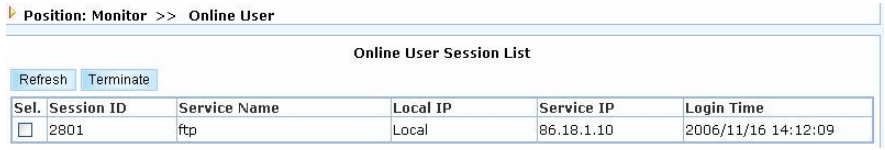
11.2 Monitor >> Online User

Select "**Monitor >> Online User**" to access this page, which displays the list of users currently online. This is also where you can choose to terminate any online connection between users and the system.

Name:	User name. The current administrator will be displayed with a "*" followed by the name.
Authentication Server:	Name of the authentication server used by this user
Admin:	Whether user has administrative rights
Login Time:	Date and time user login
Login IP:	IP address where user login from

You can click the <Refresh> button to refresh the list, or click the <Terminate> button to terminate selected users (by clicking the corresponding check boxes) connection.

You can also further view the session information of a non-admin user by clicking the hyperlinked user name. Below is an example of the session information of an online user:

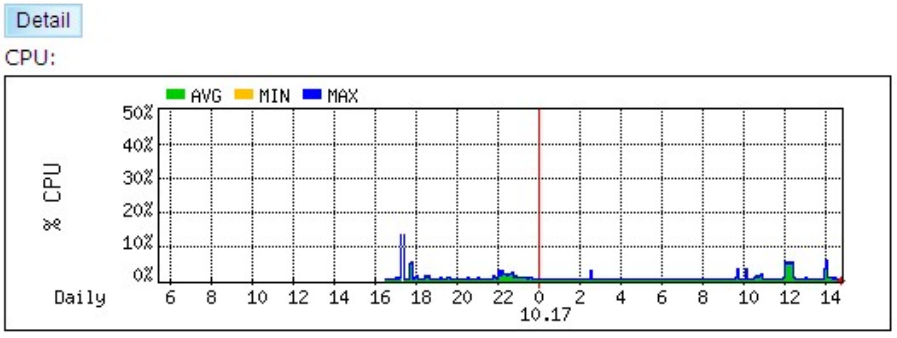


From here you can click <Refresh> to refresh the information, or click the <Terminate> button to terminate selected sessions (by clicking the corresponding check boxes). The column names are very much self-explanatory.

11.3 Monitor >> System Chart

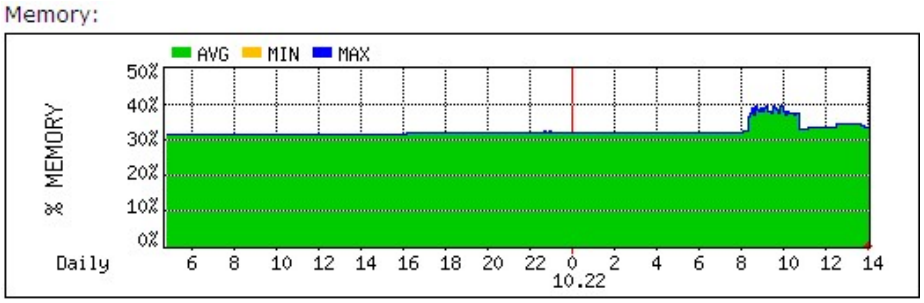
This page shows a series of charts displaying in details the various usage patterns of the CPU, RAM, Disk space, etc. Note that each chart displays three values, and the line in blue indicates the maximum value recorded at the corresponding time, the yellow line indicates the minimum value recorded at the corresponding time. The colored areas in green indicate the average value of the collected data for the corresponding time interval.

11.3.1 CPU Usage



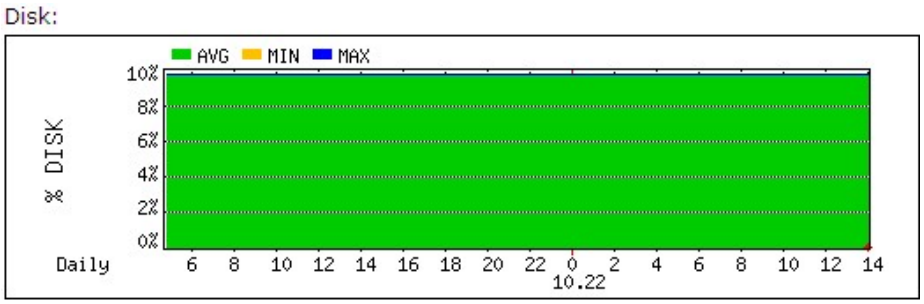
This chart shows the combined daily CPU usage of all connected CPUs in the system based on percentage use versus time at 2-hour intervals. To view the chart for individual CPUs, click <Detail> from the top of the chart.

11.3.2 Memory Usage



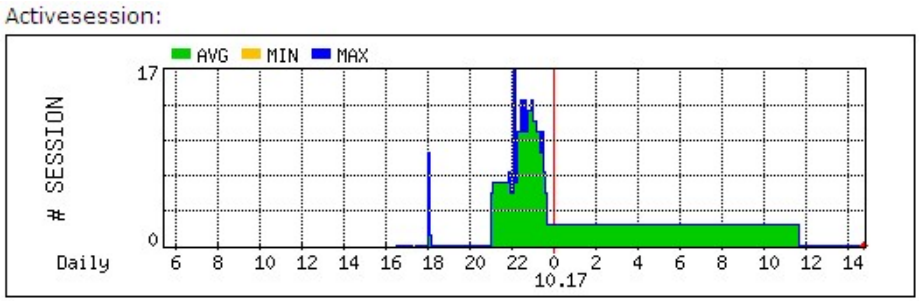
This chart shows the daily RAM usage based on percentage use versus time at 2-hour intervals.

11.3.3 Disk Usage



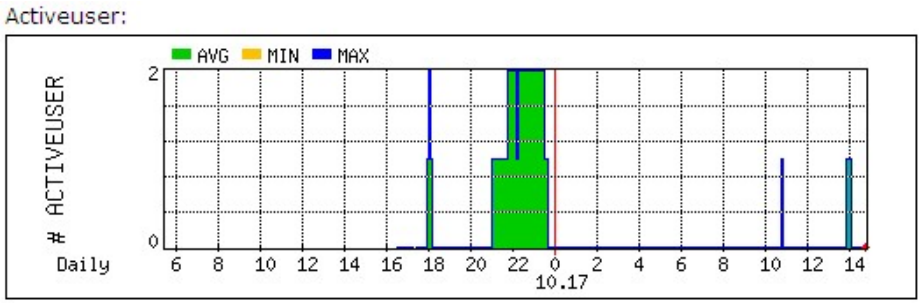
This chart shows the daily Disk usage based on percentage use versus time at 2-hour intervals.

11.3.4 Active session Usage



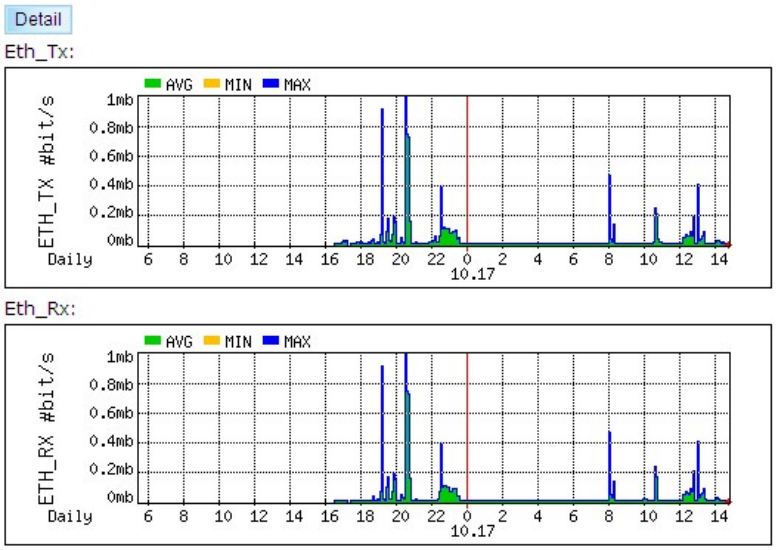
This chart shows the number of active sessions based on the number of concurrent sessions versus time at 2-hour intervals.

11.3.5 Active users Usage



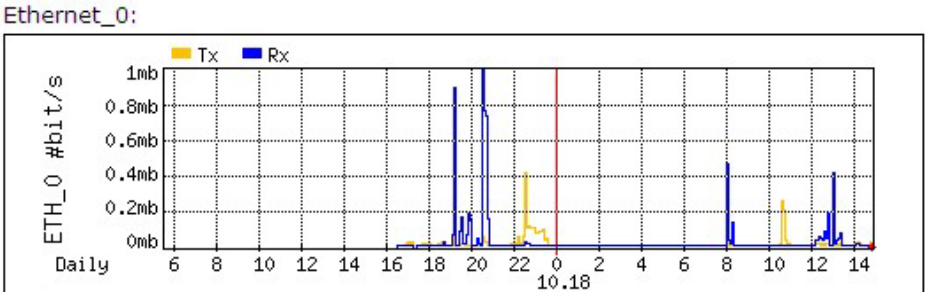
This chart shows the number of active users based on the active users online versus time at 2-hour intervals.

11.3.6 eth port's TX package speed

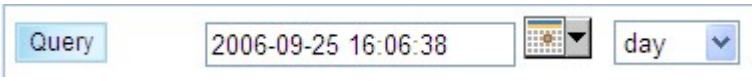


The top chart shows the daily eth port's TX package speed (at bit/s) based on the speed versus time at 2-hour intervals. The bottom chart shows the daily eth port's RX package speed (at bit/s) based on the speed versus time at 2-hour intervals. The statistics displayed in the 2 charts is the combined statistics collected from all ports in the system.

To view the individual port's charts, click <Detail> above the TX chart. An example of the chart for Ethernet port 0 is shown below, with the TX statistics in yellow and the RX statistics in blue.



11.3.7 Query for charts from other date



You can query for charts showing information from other dates and times. Just select a date from the date picker (in the Date Picker interface, remember to set the time first before selecting the date) and click the <Query> button.

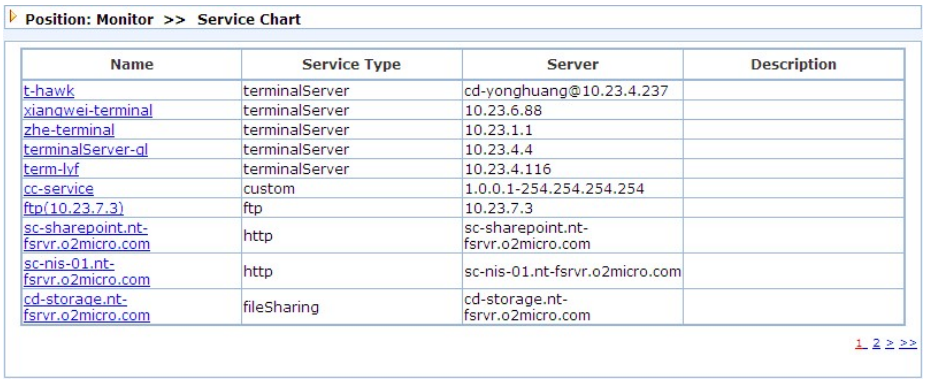
You can also decide if the charts would display daily, weekly, monthly or yearly information. Select your option from the drop down box.

11.3.8 Data collection interval

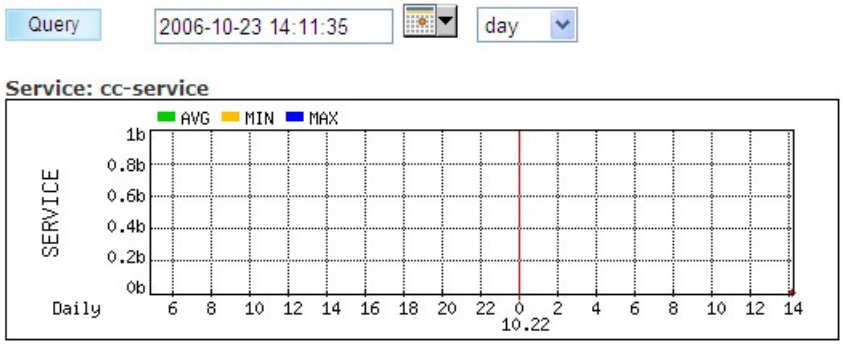
By default, Succendo collects the statistical data for the above charts in a 5 minute interval. To change this interval, select the time from the drop down menu (between 1 to 5 minutes) and click <Save>. To not collect the data, select 0 Minute from the drop down menu and click <Save>.

11.4 Monitor >> Service Chart

This page shows the amount of traffic flow each service used at intervals. Select "**Monitor >> Service Chart**" to view the Service List:

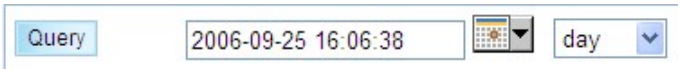


To see the usage chart of the service, click the service name hyperlink. The chart will be displayed, as shown in the example below:



The chart shows amount of traffic generated by the service based on the amount of traffic (in Megabytes) versus the time in 2-hour intervals. Just on top of the chart shows the name of the server which the service originates.

11.4.1 Query for chart from other date

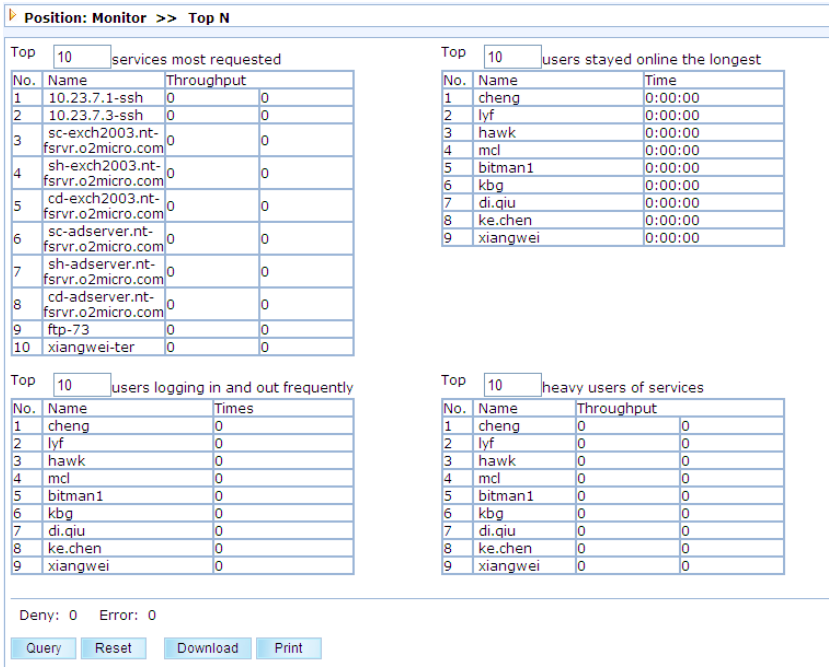


You can query for service chart showing the service information from other dates and times. Just select a date from the date picker and click the <Query> button.

You can also decide if the charts would display daily, weekly, monthly or yearly information. Select your option from the drop down box.

11.5 Monitor >> Top N

This page shows top ranking entities in 4 areas: services most requested, users stayed online the longest, users logging in and out frequently, and heavy users of services.



For each individual area you can specify the number of top entries you want to see in that area. For example you can specify to see the top 10 entries in **Services most requested**, Top 5 **users stayed online the longest**, Top 7 **users logging in and out frequently,** and Top 3 **heavy users of services**. Just enter an integer into the respective text boxes and click the <Query> button.

Deny at the bottom of the screen represents the number of times users have been denied from accessing a service

Error at the bottom of the screen represents the number of times erroneous user logins were carried out.

Click <Reset> to reset the TopN data.

Click <Download> to save the Top N statistics on the current page into a txt file into the local storage.

Click <Print> to print the Top N statistics on the current page.

Chapter

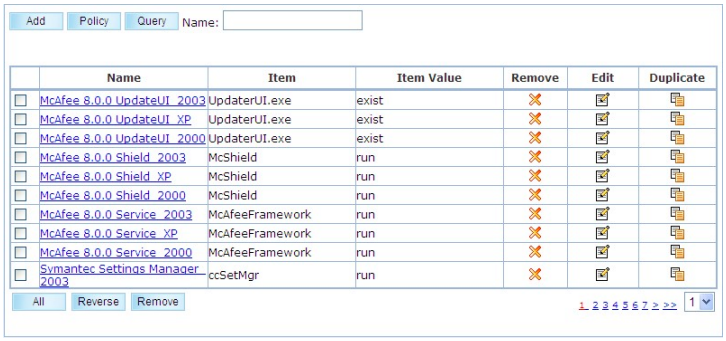
12

Client Policies

Client policies exist to ensure that the end users' workstation maintains a secured network environment and complies with corporate security policies, especially for mobile users and users who frequently perform remote-access. Policies are made up of Rules, which can be defined by the administrators. Currently Succendo check and maintain the end users' workstation based on two types of rules: Host Check and Cache Clean.

12.1 Client Policy Rules

Select "**Client Policy >> Rule**" to view the list of rules, as shown below:



Click the <Policy> button to switch to the Policy List screen (which can also be accessed by selecting "**Client Policy >> Policy**")

By clicking the icon, you can duplicate a rule immediately and add it into the Rule list. The duplicated rule will be created with the original name prefixed with a "Copy of".

Or you can click to delete a rule from the list.

Editing the existing rule is done by clicking on the rule name hyperlink. The edit screen is identical to the Add New rule interface except that the fields are populated.

12.1.1 Adding a new Rule

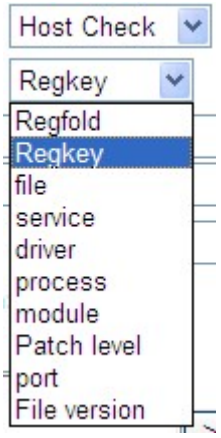
Click the <Add> button to open the Add New rule interface, and complete the fields described below:

Name: Rule name (Note that the rule name will be made know to the user when there is a violation)

OS Type: Operating System – currently select from Windows 2000, Windows XP, Windows 2003 or Windows All

Check Type: Define the type of check to be made with this rule. Select **Host Check**, which check various aspect of the users' workstation; or **Cache Clean**, which clears the local cache of the workstation.

Rule Type: Depending on the Check Type selected, you can specify which aspect of check to perform or which part of the cache to clear.



- Regfold - Register folders
- Regkey – Register Keys
- File – Client-end file
- Service –Client service
- Driver – Client-end driver
- Process – Client-end process
- Module – Client-end module
- Patch Level – Windows' patch level
- Port – Client-end port
- File version – Version of software used to create/modify the file on the client-end

- Clean cookie – clear the cache cookies
- Clean file – clear temporary internet files and web history files
- Clean temp – clear temp files (as defined in the environment variable *%temp%*)
- Clean user credentials & auto-complete – this clears any user credentials from previous authentication, and clears all cache in auto-complete features found in text boxes
- Delete directory – deletes the data stored in the directory during the connection

Check Item: Name of the specific item. This field is not available if **Rule Type** is "Patch Level". Examples of check item values for **rule type**:

"Regfold" – HKEY_LOCAL_MACHINE\SOFTWARE\INTEL

"Regkey" – HKEY_LOCAL_MACHINE\SOFTWARE\INTEL\IGDI\install

Item Value: The value of the item to check against (based on **Rule Type** selected)

Message URL: When a rule fails, the system will display an error message, which is clickable and hyperlinked to this URL.

Policy Information: Select the policies that will include this rule

Description: Brief description of the rule (max. 128 characters)

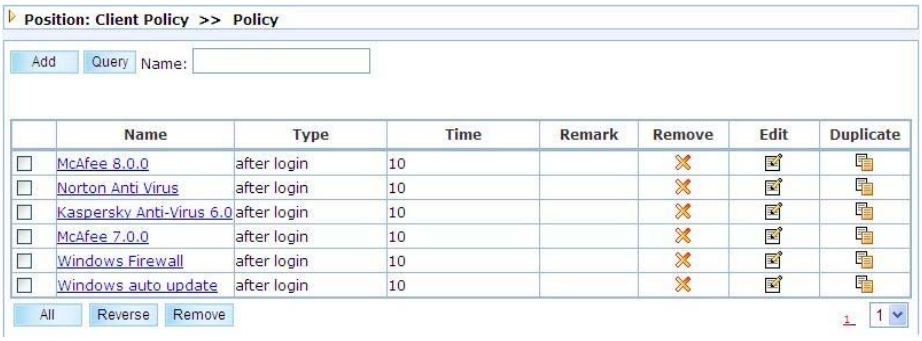
Click <Save> to save the information, or <Reset> to undo the changes...

12.1.2 Query for specific rules

You can also query for specific rules based on the rule name. Just enter the name (or part of a name) to the Name text box (as shown in the diagram) and click <Query> to generate a new list.

12.2 Client Policy

Client policies are defined by their type and the rules they include. Each policy can be defined by multiple rules. To see the list of existing policies, select "**Client Policy >> Policy**" to see the list of policies:



By clicking the icon, you can duplicate a policy immediately and add it into the Policy list. The duplicated policy will be created with the original name prefixed with a "Copy of".

Or you can click to delete a policy from the list.

Editing the existing policy is done by clicking on the policy name hyperlink. The edit screen is identical to the Add New policy interface except that the fields are populated.

12.2.1 Adding a new Policy

Click the <Add> button to open the Add New Policy interface and complete the fields described below:

Name: Policy name

Policy Type: Select **Before Login**, where the policy is assigned to the user before login – the policy will be enforced during and after user login. This Policy Type will be active only when the "Global Check Status" is enabled (see ***Chapter 3, Section 3.3***).

Select **After Login**, where it is enforced after the user login.

Time: The duration between each enforcement of policies

Rule Information: Select the rules for this policy

Description: Brief description of the policy

Click <Save> to save the information, or <Reset> to undo the changes.

12.2.2 Query for specific policies

You can also query for specific policies based on the policy name. Just enter the name (or part of a name) to the Name text box (as shown in the diagram) and click <Query> to generate a new list.

Chapter

13

Access Restriction List

Access restriction lists (ARL) are rules setup by the Administrator to narrow down and restrict the access privileges of specific users (both administrators and end-users). In general, an ARL is a pair of IP address and port that the system assigns a "**deny**" or "**permit**" action. The ARL can then be assigned to specific users or user groups.

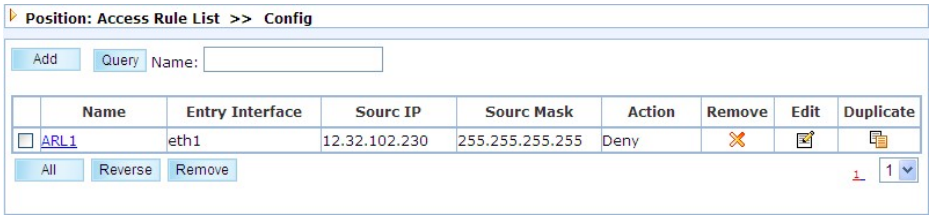
Whenever the user attempts to log into the system, a check will be made to determine if the user is assigned any ARL, after they have been successfully authenticated (via username and password). If one or more ARL are assigned to the user, then the system will start to match the IP addresses and ports with the one the user is currently logging in from. If a match is found, the system will perform the action defined for the ARL, that is, to deny or permit the user to continue to login. This way, administrator can define specifically *where* a user can login to the system, for example, denying the user from logging into the system from home, while permitting them to login from a specific workstation in remote branch office.
With this feature, there is even greater flexibility in tailoring access and security levels for specific users.

Adding the ARL to a user can have an effect on the **ARL Default Action** configured in "**System >> Security**" (***Chapter 3, Section 3.3***). The ARL default action decides the action to be taken if the user is logging in from IP addresses and ports that are *not defined* in an ARL (if ARL was assigned to the user). If there is no ARL defined for a user at all, they can have access to the system from any IP addresses, via any port, regardless of what is defined in the **ARL Default Action**. The following table best illustrates the concept:

ARL Default Action = DENY	
ARL Defined?	**Effect**
None	User can access the system from any IP addresses or ports
ARL=DENY defined for port eth0, IP address 220.11.6.5	User cannot access the system from 220.11.6.5 at eth0, neither can he access from any other port or IP addresses due to the ARL Default Action being DENY.
ARL=PERMIT defined for port eth0, IP address 220.11.6.5	User can access the system from 220.11.6.5 at eth0, but will be unable to access from any other port or IP addresses due to the ARL Default Action being DENY.

ARL Default Action = PERMITTED	
ARL Defined?	**Effect**
None	User can access the system from any IP addresses or ports
ARL=DENY defined for port eth0, IP address 220.11.6.5	User cannot access the system from 220.11.6.5 at eth0, but will be able to access from any other port or IP addresses due to the ARL Default Action being PERMITTED.
ARL=PERMIT defined for port eth0, IP address 220.11.6.5	User can access the system from 220.11.6.5 at eth0, and will also be to access from any other port or IP addresses due to the ARL Default Action being PERMITTED.

To see the current list of ARL, select "**ARL >> Configure**" at the Menu Bar.



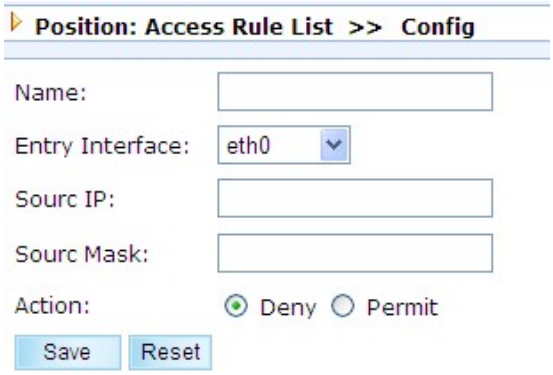
By clicking the icon, you can duplicate a rule immediately and add it into the ARL list. The duplicated rule will be created with the original name prefixed with a "Copy of"

Or you can click to delete a rule from the list.

Editing the existing ARL is done by clicking on the ARL name hyperlink, or clicking the icon corresponding to the ARL name. The edit screen is identical to the Add New ARL interface (shown in the diagram below) except that the fields are populated.

13.1 Adding a new ARL

Click <Add> to access the Add New ARL interface shown below:



Name: ARL name

Entry Interface: The type of port through which a user can access the Succendo interface

Sourc IP: IP address which the rule would deny or permit

Sourc Mask: Subnet mask of the IP address

Action: Select which action (deny or permit) the system will perform according to this rule

Click <Save> to save the new Rules or <Reset> to undo the changes.

13.2 Querying for ARL

You can make use of the <Query> button at the ARL list screen to search for a specific ARL(s) based on the ARL name.

Simply type the name into the **Name** text box and click <Query>.

The system will generate a list of ARLs with names that match or partially match the name field here. Querying with a blank name field will yield the entire list of ARLs. Note that any leading white spaces before a name will be automatically removed from the search phrase.

Chapter

14

Network Connection

Being a SSL-VPN, Succendo primary offers the remote access of web-enabled applications to the end-users. This model is sufficient in providing web-based applications to partners and most employees. However, other staff members such as IT personnel may require access to the entire IP network so as to be able to carry out their duties. Succendo can be configured to monitor and provide access to all internal network resources through the Network Connection (NC) access model.

You can configure the NC settings to be deployed in the following ways:

1. Single direction access from the NC client to the application servers
2. Bidirectional access from the NC client to the application servers and vice versa
3. Proxy client to NC client such as connecting IT administrators to the NC client to provide technical support when needed
4. Securing connections internally by transferring data between the internal application server and Succendo via the secured NC tunnel
5. Connection between 2 peer NC clients

14.1 Succendo NC Operation

To enforce the security of remote accesses to the Intranet, you can setup Succendo to allow or deny access to specific resources via NC. To setup Succendo to provide NC service to clients, complete the following steps.

1. Configure IP Pools
2. Add VPN Users
3. Configure the NC environment
4. Add NC accessible services
5. Manage the roles

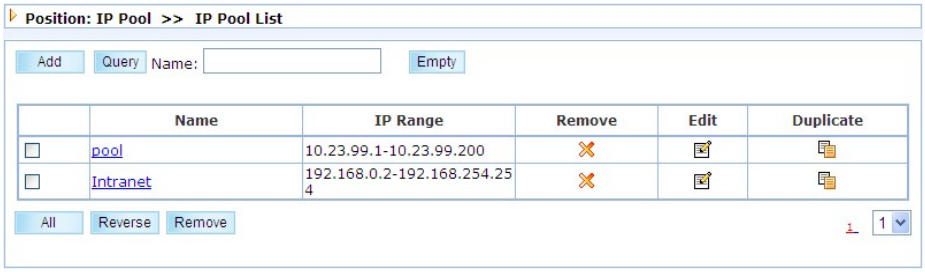
The sections below detail each of the 5 steps above.

14.2 IP Pools

IP pools are used by Succendo to assign IP addresses to NC user's virtual network cards. When a user successfully logs into Succendo and activates NC, Succendo will assign an IP address to the user from his assigned IP pool. This address will be the user's virtual NIC address. Note that each user can be assigned to only 1 IP pool.

If the assigned IP address conflicts with the user's physical network card's IP address, Succendo will re-assign an IP address to the user.

Select the menu option "**IP Pool >> IP Pool List**" and the list of IP pools will be displayed.



Click <All> to select all IP pools displayed on the current page. Clicking <Reverse> will select the unselected IP pools while un-selecting the selected ones. Click <Remove> to delete all selected IP pools. You can also click <Empty> to remove all IP pools currently displayed.

14.2.1 Adding a new IP Pool

Click the <Add> button to open the Add New IP Pool interface and complete the fields described below:

Name: Name of the IP Pool

Pool: Enter the **Start IP** address and **End IP** address of an IP range and click <Add> to add the range into the list box below. Select an IP range from the box and click <Remove> to remove the range from the list. As Succendo defaults all IP addresses assigned to end-user's to be of network length 32, it is not necessary to specify the network mask of the IP range.

Note that the maximum number of IP range per IP pool is 6.

User Information: Select the users to be assigned to this IP Pool by selecting them from the **Unselected** box and click to move them into the **Selected** box. **Note** that each user can only be assigned to 1 IP pool and the **Unselected** box will only display the users that are not yet assigned to any IP pool.

Description: Brief description of this IP Pool

Click <Save> to save the new IP pool.

Note that if the administrator defines an IP Pool with the IP Pool name equal to that of an authentication server, users, whose logins are authenticated by this server, will be able to obtain an IP address from this authentication server's IP pool if the user was not assigned an IP Pool on Succendo.

Administrators can also edit or remove the assigned IP pool from a user in the edit/add user interface as will be demonstrated in **Section 14.2**.

14.2.2 Editing, Deleting and Duplicating Existing IP Pools

- To edit an IP pool, click the hyperlinked **name**, or the icon corresponding to the pool. You will open an interface identical to the one allowing you to add new IP pool, except this time the fields are populated.
- To delete an existing IP pool, click the icon corresponding to the IP pool.
- To duplicate an IP Pool, click the icon under the "Duplicate" column corresponding to the **name** of the pool you want to duplicate. The duplicated item will be created with the original name prefixed with a "Copy of"

14.2.3 Querying for specific IP Pools

You can also query for specific IP pools based on the name. Enter the full or partial name in the Name text box and click <Query> to generate the search list.

14.3 VPN Users

Setup the users that are able to activate NC access remotely through Succendo. Select "**User >> User Accounts**" from the menu and the list of currently existing users will be displayed. Either click <Add> to add a new NC user or edit an existing user to enable NC access for by assigning the users IP Pools. In the **IP Pool** field on the interface, select the appropriate IP Pool from the drop down menu (displaying the list of IP Pool names configured in **Section 14.1**).

Please refer to **Chapter 7**, **Section 7.2** for details on the adding/editing of user accounts.

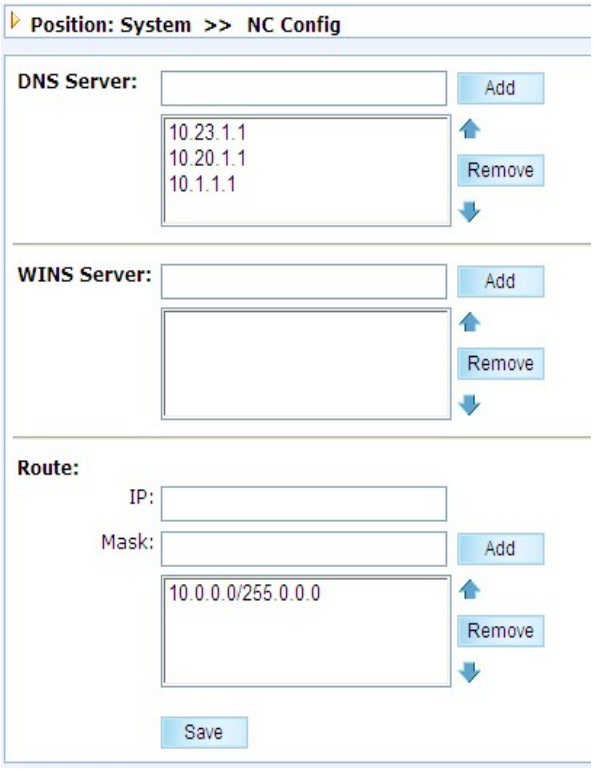
Note:

The IP Pools must not contain any IP addresses currently existing in the network.

Configure static routes on the application server gateways to ensure that application server data to addresses in these IP pools can be routed to Succendo.

14.4 Configure NC Environment

Configure the NC environment that will be downloaded into the remote user's VNIC network tables when NC access is activated. These include the **DNS server** addresses, **WINS server** addresses and user reachable **routes**. Select "**System >> NC Config**" to view the configuration interface as shown below:



DNS Server: DNS server addresses to be used by the clients

WINS Server: WINS server addresses to be used by the clients

Route: Reachable routes (**IP** and network **mask**) to be added to the client's route table.

These domains ensure that users' accesses to the corresponding network area are sent to Succendo via the NC network card.

Enter the relevant information into the textboxes and click the corresponding <Add> button to add it into the list below. Select an item from the list and click <Remove> to remove it from the list.

You can also change the priority of the server addresses and routes by clicking the respective up and down arrows to the right side of each list box.

Click <Save> to save the NC environment.

14.5 NC Accessible Services

Add the NC services to be accessible remotely. Select "**Service >> Service List**" from the menu and click <Add>

Select **Access Method** to be "NC" and configure the remaining fields accordingly. Refer to **Chapter 8**, **Section 8.1** for details on adding services.

14.6 Roles

Succendo authorizes user's access to services via the management of roles. Hence, it is necessary to add the roles needed for NC accesses. Select "**Role >> Role List**" from the menu and click <Add> to add a new role. Please refer to **Chapter 9** for details on role management and configuration.

Chapter

15

Shell Commands

Shell commands can be entered when you connect Succendo (via the serial port) to a console (example, the Hyper Terminal software in Windows). Once you enter into the console screen, press CTRL-C to enter into Monitor Mode. You can start entering the commands at the "Monitor>" prompt.

There are 3 modes where you can run the shell commands: Monitor Mode, Normal Mode and Configure Mode. The same function or command may work differently, and have different purpose and applications under different mode.

15.1 Monitor mode

The Monitor Mode is essentially a recovery mode while Succendo start-up. Under this mode, Succendo can only provide basic system protection functions – no SSL-VPN functions are available.

To enter into Monitor Mode, press CTRL-C when the screen displays the message "*Press 'Ctrl-C' to enter monitor*" during system start-up. Once the system successfully enters Monitor mode, you will see the "Monitor>" prompt cursor blinking on the display.

#Command list (*Applicable for monitor v1.05-e*):

erase	delete data
exit	exit
interface	configure interface
ip	IP information
no	delete a configure
ping	send echo message
reload	reload system
restore	restore system
show	show system information
update	update core or software

?

Command string	?
Function	Under any mode, when a "?" is typed after a command, the monitor will display the parameters or sub-commands available for this command.
Example	Monitor>interface ? Commands: Eth0 Interface eth0 Eth1 Interface eth1

<tab>

Command string	<Tab> (as in pressing the TAB key on the keyboard)
Function	Under any mode, pressing the TAB key after typing a part of a command word would either list out a list of shell commands that is similar to the partial word, or complete the partial word if there is only one command word that resembles the partial word.
Example	Monitor>inte <TAB> Monitor>interface

erase

Command string	erase all | data
Function	Delete all data, or just delete configuration file and log
Example	Erase user data Monitor>erase data Erase all data Monitor>erase all
Note	Erase All will erase Succendo's program data. The system will not be able to start unless a system upgrade is done. Use Erase All only if you are about to do a system upgrade or to do a re-installation. Erase would erase configuration settings and clears the logs (thus restoring to factory default). Regardless of whether you are using erase data or erase all, the user setting for SSL VPN will be discarded. This includes IP address, route settings, administrator settings, user and user group information and role information. Ensure there is a backup for this information before using this command.

exit

Command string	exit
Function	Exit from monitor
Note	Using the hotkey <CTRL-C> has the same effect.

interface

Command string	Interface *ethX* ip *A.B.C.D M.M.M.M*
Function	Setting ip address of a ethernet port
Example	Monitor>interface eth0 ip 1.1.1.1 255.255.255.0

Command string	Interface ethX up|down
Function	Switch the ethernet port on or off
Example	To switch off the ethernet port:: Monitor>interface eth1 down To switch on the ethernet port: Monitor>interface eth1 up

ip

Command string	Ip route *A.B.C.D M.M.M.M A.B.C.D*
Function	Establish static routes
Example	Monitor>ip route 1.1.1.1 255.255.255.255 218.201.10.120

no

Command string	No ip route *A.B.C.D M.M.M.M*
Function	remove existing static routes
Example	Monitor>no ip route 1.1.1.1 255.255.255.255

ping

Command string	Ping *A.B.C.D*
Function	Ping destination IP address
Example	Monitor>ping 86.18.1.1 !!!!! 5 packets transmitted, 5 packets received

reload

Command string	reload
Function	Reload system
Note	Reloading the SSL VPN would severe all services.

restore

Command string	Restore admin | setting
Function	Restore the administrator's ("admin") default settings, excluding ARL and description setting, or restore factory default settings.
Note	When factory default settings are restored, all user-defined settings will be lost. The restore admin command will restore all factory default settings for the system default administrator other than settings for ARL and description.

show

Command string	show interface *ethX* |<cr>
Function	Show information of a ethernet port
Example	Monitor>show inter eth1 ip: 86.48.1.6 hw: 00:0e:2e:2d:80:66 state: up

Command string	show ip route
Function	show IP routing table
Example	Monitor>show ip route Network Netmask Route 86.48.0.0 255.255.0.0 eth1 0.0.0.0 0.0.0.0 86.48.1.1

update

Command string	Update monitor | system *HOST* www|ftp **{***username password***}** *FILE*
Function	Update monitor or system file from HOST, using www or ftp
Example	Update the monitor via WWW: Monitor>update monitor 211.23.14.175 www monitor-v1.05d.bin Update the monitor via anonymous FTP login: Monitor>update monitor 211.23.14.175 ftp anonymous a monitor-v1.05d Update the monitor via FTP user login: Monitor>update monitor 211.23.14.175 ftp admin admin monitor-v1.05d. Update the system via WWW: Monitor>update system 211.23.14.175 www d3p4.bin Update the system via anonymous FTP login: Monitor>update system 211.23.14.175 ftp anonymous a d3p4.bin Update the system via FTP user login: Monitor>update system 211.23.14.175 ftp admin admin d3p4.bin

15.2 Normal mode

If the system start-up normally, it will be in Normal Mode where all SSL-VPN services are activated. Under this mode, you can configure basic system parameters.

#Command list:

configure	turn on configuration commands mode
exit	exit from current EXEC mode
generate	generate new local certificate
ping	send echo message
poweroff	switch off the system
reload	reload the system
restore	restore the system
show	show running system information
traceroute	send echo message
update	update software
who	show all login users

?

Command string	?
Function	Under any mode, when a "?" is typed after a command, the monitor will display the parameters or sub-commands available for this command.
Example	Succendo# show ? Commands: interface Interface configuration commands ip Internet protocol configure command version software version

<tab>

Command string	<Tab> (as in pressing the TAB key on the keyboard)
Function	Under any mode, pressing the TAB key after typing a part of a command word would either list out a list of shell commands that is similar to the partial word, or complete the partial word if there is only one command word that resembles the partial word.
Example	Succendo# conf <TAB> Succendo# conf terminal

configure

Command string	configure terminal
Function	Enter configure mode

exit

Command string	exit
Function	Exit from shell

generate

Command string	generate local certificate
Function	Generates a new local certificate
Example	Succendo# generate local certificate

ping

Command string	Ping *WORD* | <CR>
Function	Ping destination DNS name or IP address Ping <CR> *(Extended ping – you will be guided to set a few parameters before the system does the ping)*
Example	Normal ping command: ssl_vpn# ping FTPServer.806lab.com *(DNS name or IP address)* Press key (ctrl + shift + 6) interrupt it. Sending 5, 76-byte ICMP Echos to 192.168.1.2, timeout is 2 seconds: !!!!! Success rate is 100% (5/5). Round-trip min/avg/max=0/0/1 ms. Extended ping command: ssl_vpn# ping Target IP address or hostname: 192.168.1.2 *(must specify destination IP address)* Repeat count [5]: 12 *(number of ping packets, default 5)* Datagram size [76]: 78 *(ping size, default 76 characters)* Timeout in seconds[2]: 3 *(Timeout, default 2 seconds)* Source address [not specify]: 192.168.2.2 *(specify source address. Default is address not specify)* Press key (ctrl + shift + 6) interrupt it. Sending 12, 78-byte ICMP Echos to 192.168.2.2, timeout is 3 seconds: !!!!!!!!!!!! Success rate is 100% (12/12). Round-trip min/avg/max=0/0/1 ms.

poweroff

Command string	poweroff
Function	Power off the system, if it supports APM (advanced power management)

reload

Command string	reload
Function	Reload system

restore

Command string	restore setting
Function	Restore to factory setting (after restore, you should reload system)
Note	After restoration, the IP address will be restored to factory default's 92.168.1.100, the administrator user name and password restored back to default "admin" and "admin" respectively, and all other settings are lost.

show

Command string	show interface *ethX* | <cr>
Function	Show ethernet port(s) information
Example	Shows a specific port information ssl_vpn# show interface eth1 eth1: IP Type: Manual Flags: (0x1043) UP Internet address: 211.23.16.15 Netmask: 255.255.0.0 Ethernet address: 00:30:18:a3:43:f3 Shows all ports' information ssl_vpn# show interface eth0: IP Type: Manual Flags: (0x1043) UP Internet address: 86.18.1.15 Netmask: 255.255.0.0 Ethernet address: 00:0e:2e:2d:cf:0b eth1: IP Type: Manual Flags: (0x1043) UP Internet address: 211.23.16.15 Netmask: 255.255.0.0 Ethernet address: 00:30:18:a3:43:f3

Command string	show ip route
Function	show IP routing table
Example	ssl_vpn# show ip route Destination Netmask Gateway 86.48.0.0 255.255.0.0 211.23.0.120 211.23.0.0 255.255.0.0 eth1 86.18.0.0 255.255.0.0 eth0 0.0.0.0 0.0.0.0 211.23.254.254

Command string	show license
Function	show the device's license information
Example	Succendo# show license System license information: ID: e21d25beb490d844 Key: --- License users: 25

Command string	Show running
Function	Prints the system operation configuration information
Example	Succendo# show running System version information: System: Succendo 3.2 (Build test) 20061114120636 Client: build20061114120745 hostname Succendo interface eth0 ip 86.18.33.10 255.255.0.0 interface eth1 ip 86.48.33.10 255.255.0.0 interface eth2 ip 0.0.0.0 0.0.0.0 interface eth3 ip 86.88.33.10 255.255.255.255 ssl encrypt strength medium ssl port 443

Command string	Show version
Function	show software version
Example	ssl_vpn# show version System version information: System: Succendo3.0.0 (Build 9) 20051216142037 Client: build20051216142051

traceroute

Command string	Traceroute *HOST*
Function	Trace the hops on route to the destination host.
Example	Succendo# traceroute 86.18.1.1 Press key (ctrl+shift+6) interrupt it. Tracing the route to 86.18.1.1, min ttl = 1, max ttl = 30. 1 86.18.1.1 6.561ms 2.270ms 1.474ms

update

Command string	Update system *HOST* www | ftp **{***username password***}** FILE
Function	Update system using www or ftp
Example	Update via WWW: update system 211.23.4.175 www d3p4.bin Update via anonymous FTP login: update system 211.23.4.175 ftp d3p4.bin Update via FTP user login: update system 211.23.4.175 ftp d3p4.bin warmghost 810427

who

Command string	who
Function	Show all login users on shell
Example	ssl_vpn# who Line User Host Idle Total --- vty0 admin 211.23.4.9 00:00:00 00:27:29

15.3 Configure mode

Configure Mode is part of the Normal Mode. To enter this mode, type "configure" and press ENTER while you are in Normal Mode. Under this mode, you can configure the system's network-related information such as IP address, route, etc.

#Command list:

end	exit from configuration mode
exit	exit from current EXEC mode
hostname	configure host name of local machine
interface	interface configuration commands
ip	internet protocol configure command
no	negate a command or set its defaults
ssl	Configure ssl related parameters

end / exit

Command string	end exit
Function	Return to normal mode

hostname

Command string	Hostname *NAME*
Function	Set hostname
Example	ssl_vpn(config)# hostname Succendo3 Succendo3(config)#
Note	First character of the name must be an alphabet, and the name must not be longer than 64 characters.

interface

Command string	Interface *ethX* ip *A.B.C.D M.M.M.M* Interface ethX ip dhcp
Function	Setting ethernet port ip address manually or as DHCP client
Example	Set port address manually: ssl-vpn(config)# interface eth0 ip 86.48.1.15 255.255.0.0 Set port to retrieve address from DHCP ssl-vpn(config)# interface eth0 ip dhcp

Command string	Interface *ethX* up | down
Function	Switch the ethernet port on or off
Example	To switch off the port: ssl-vpn(config)# interface eth0 down To switch on the port: ssl-vpn(config)# interface eth0 up

ip

Command string	ip route *A.B.C.D M.M.M.M A.B.C.D*
Function	Establish static routes
Example	ssl-vpn(config)# ip route 20.0.0.0 255.255.255.0 211.23.0.120

no

Command string	No interface *ethX* ip **{**dhcp**}**
Function	remove existing port address
Example	Remove existing port address that has been set manually: ssl-vpn(config)# no interface eth0 ip Remove existing port address that has been set using DHCP: ssl-vpn(config)# no interface eth0 ip dhcp

Command string	No ip route *A.B.C.D M.M.M.M*
Function	remove existing static routes
Example	ssl-vpn(config)# no ip route 20.0.0.0 255.255.255.0 218.200.10.120

ssl

Command string	ssl encrypt strength *high* | *medium* | *low*
Function	Configure SSL encryption strength, either High, Medium or Low
Example	succendo(config)# ssl encrypt strength medium

Command string	ssl port *XXX*
Function	Configure the ssl port number
Example	Succendo(config)# ssl port 443
Note	The default ssl port number is TCP443

Command string	ssl protocol accept sslv2 no ssl protocol accept sslv2
Function	Configure the ssl version
Example	Succendo(config)# ssl protocol accept sslv2
Note	If this command is used, Succendo will be able to support sslv2, sslv3 and tlsv1. Otherwise, Succendo will only support sslv3 and tlsv1

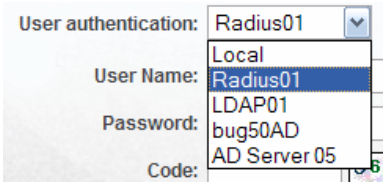
Appendix A: End-User Remote Access

With a standard web browser, end-users can login to the network via Succendo from anywhere. The first step is to point the browser to Succendo SSL VPN's URL, which was setup earlier. Note that the browser should be pointing to the URL using the secured HTTP, i.e., HTTPS. For example, the user can point the browser to **https://211.10.167.35/**

Login Page

Once the requested page is retrieved, the user will be greeted with the login page, as shown below:

User authentication: The users should already been informed authentication server they will be verified under. Select a server name from the drop down box, as in the example below:



User Name: User name for Password users

Password: Password for Password Users

Code: This parameter will appear depending on whether you have included Additional Code verification in your configuration. Users will be required to enter the code shown in the code box. This image code will contain alphanumeric characters including 0-9, a-f and A-F.

Credential Type: Credential Type refers to the type of verification the users are subject to.

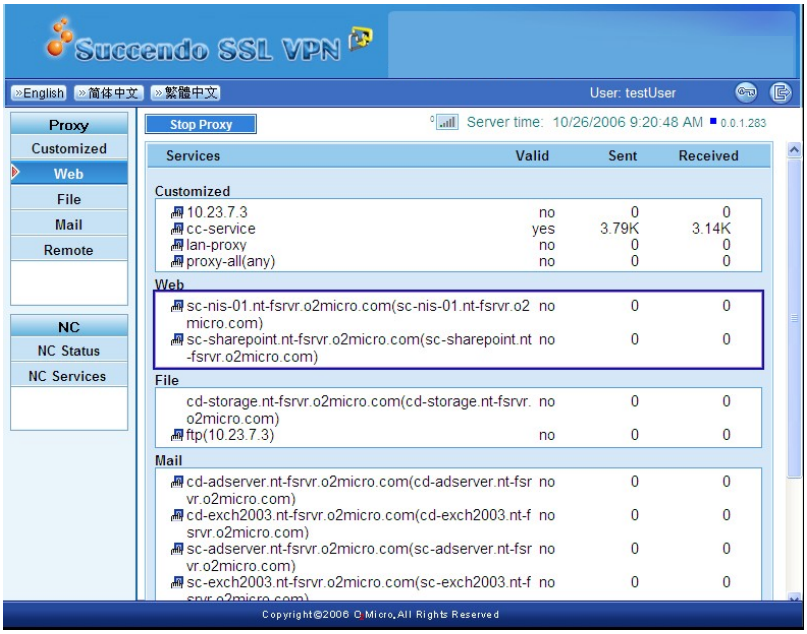
If the domain is selected as “Certificate”, the User Name and Password fields will be disabled as the users need not enter them.

Note that if the certificate user has been assigned a re-authentication password, the user can choose to login via either password or certificates.

User can then click <Login> to login, or click <Cancel> to close the browser instead.

Service Page

Once login is successful (which includes a successful host check), the user will see the service page. This page will show all the services available to the users, as you have set them up. An example of the page is shown below:



On the right of the top banner area is an auto-scrolling bulletin board where messages from administrators are displayed. The page consists of a Server List bar on the left, tool buttons on the top, and the service list below the tool buttons. The services are divided into groups for easy viewing and access. The various service groups available are:

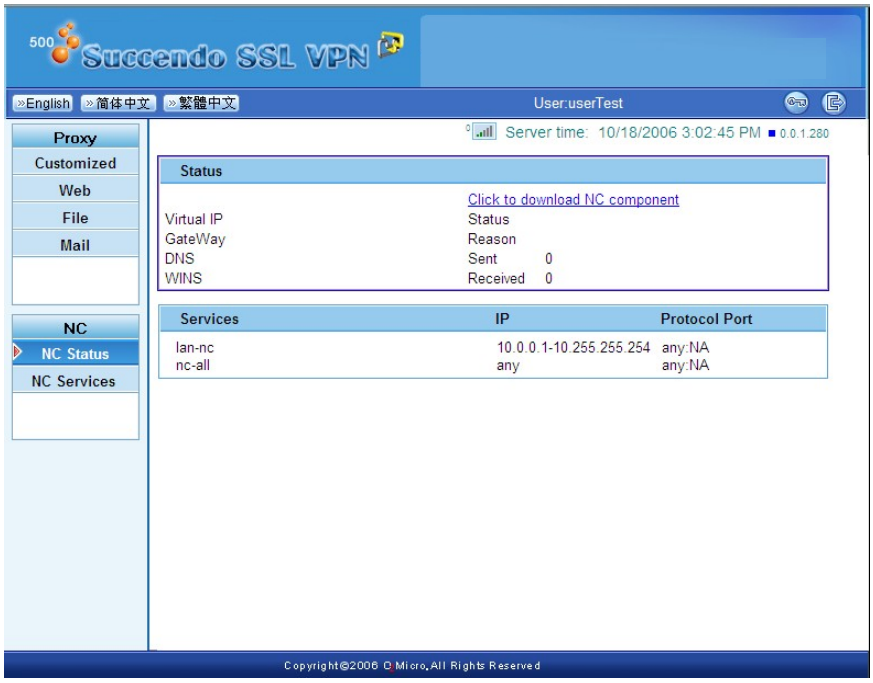
Proxy Services

Customized	Services that are not otherwise categorized under the categories below are listed here
Database	Database related services
Directory	Directory related services such as LDAP, AD, etc.
File	Files related services such as FTP, file-sharing, etc.
Mail	Services that deals with mails, such as HTTP mails, Exchange, etc.
Portrange	Services that belong to the particular port range
Remote	Remote access services such as VNC, Telnet, etc.
Web	Web services

Click on the group from the service list bar and the service list will automatically scroll to the corresponding group which will be displayed with a bolded border as the figure above shows.

Activating NC Access

If the user has been set up for NC access, he can view the NC user interface by clicking on the sub options in the "**NC**" menu.



If this is his first time accessing NC, the user must first <Click to download NC component> and install the file onto the local computer. The first box ("**NC Status**") will then display the current NC status including the user's VNIC IP address assigned and it's connection status, the status of the gateway and whether any DNS or WINS server addresses have been downloaded from Succendo.

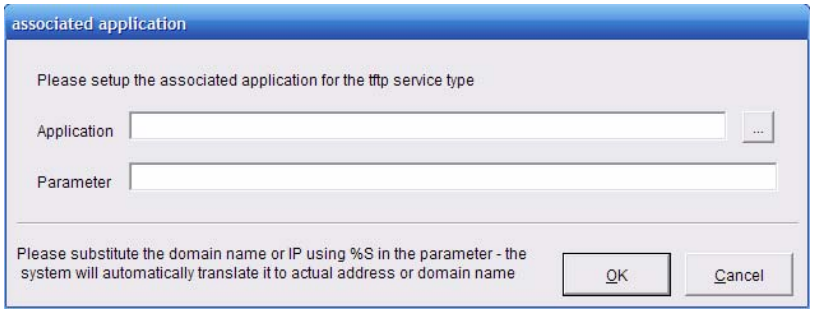
The area below displays the NC services that are authorized for the user's access. As with proxy services, you can click the relevant option from the "**NC**" menu in the bar on the left to auto-scroll the page to the corresponding area.

Note that if a particular service can be accessed both in proxy and NC mode, then the system automatically executes the service at the client-end in proxy mode. To use NC instead, click the <Stop Proxy> button from the top of the proxy service list.

Setting up associated applications

The services names are all hyperlinked. User can click the name to access the service via an associated application. If an associated application for the service is not defined, an error message will be displayed:

If this is the case, the user has to click the icon beside the service name to setup the associated application.


associated application
Please setup the associated application for the tftp service type
Application
Parameter
Please substitute the domain name or IP using %S in the parameter - the system will automatically translate it to actual address or domain name
OK
Cancel

Once the associated application is setup, the user can click the service name to access the service via the application.

Service status

The **Valid** column indicates the status of the services. If the service is currently not in use, the value in the **Valid** column will be a “no”. If the services are currently being accessed, the user will see a “yes” in the **Valid** column, and the amount of data sent and received will be shown under the **Sent** and **Received** column respectively, as shown in the example below:

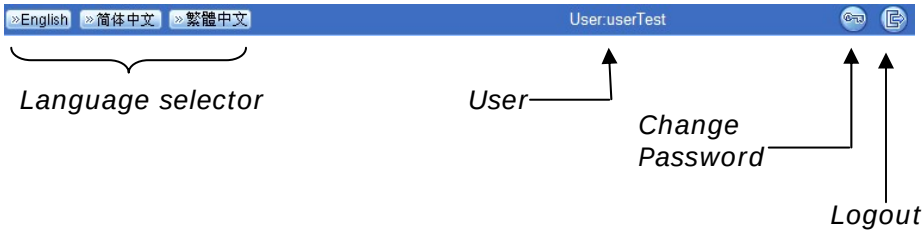
Services	Valid	Sent	Received
Customized			
10.23.7.3	no	0	0
cc-service	yes	23.12K	17.20K
lan-proxy	no	0	0
proxy-all(any)	no	0	0
Web			
sc-nis-01.nt-fsrvr.o2micro.com(sc-nis-01.nt-fsrvr.o2micro.com)	no	0	0
sc-sharepoint.nt-fsrvr.o2micro.com(sc-sharepoint.nt-fsrvr.o2micro.com)	no	0	0

If the IP address of the service becomes invalid (due to a disconnection to the server or the server are down), a red **E** will appear under the **Valid** column:

Services	Valid	Sent	Received
Customized			
10.23.7.3	**E**	0	0
cc-service	yes	23.12K	17.20K
lan-proxy	no	0	0
proxy-all(any)	no	0	0
Web			
sc-nis-01.nt-fsrvr.o2micro.com(sc-nis-01.nt-fsrvr.o2micro.com)	no	0	0
sc-sharepoint.nt-fsrvr.o2micro.com(sc-sharepoint.nt-fsrvr.o2micro.com)	no	0	0

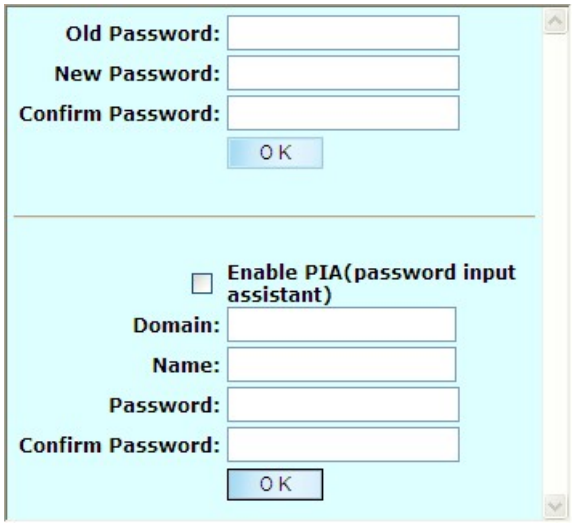
Tool Bar buttons

On top of the service list is the tool bar with various commands.



Change password

To change password, user can click the “Change Password” button on the tool bar. A Change Password interface will open:



Enter the current password (**old password**), the **new password** and retype the password (**Confirm Password**) to confirm. Click <OK> to change the password.

The user can also enable a single-sign on functionality by selecting **Enable PIA (password input assistant).** Specify his **Domain** ip address, user **name**, and **password.** Retype the password to confirm. Upon successful login, Succendo will automatically enter the user’s information when accessing the authorized services.

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